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A mixed methods investigation of a typology of reactive and proactive aggression

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A mixed methods investigation of a typology of reactive and proactive aggression

By
Lisa Hopkins

May 2016



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Lisa Hopkins

May 2016

*A thesis submitted in partial fulfilment of the University's
requirements for the Degree of Doctor of Philosophy*

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Abstract

The overarching aim of the thesis was to identify and explore a behavioural typology of the use of reactive and proactive aggression in a sample of 9-14 year-old English children and adolescents. To date, few studies have employed a person centred approach to investigate behavioural patterns of the use of both reactive and proactive aggression. Of these only two have investigated the behaviour of community, rather than specialised or clinical participant samples (Crapanzano, Frick and Terranova 2010; Mayberry and Espelage 2007). However, these two studies employed methods which raise questions regarding the reliability and/or generalisability of the results obtained. For example, neither study asked participants whether they had actually engaged in the behaviours of interest; rather they asked children to report on how likely they felt they were to react in the same way as described in a list of aggressive scenarios presented to them. As such the studies did not actually record engagement in aggressive behaviour, rather the participants' perceived likelihood that they would behave in a certain way. Furthermore, neither study was conducted in the UK, leading to questions of generalisability between participant samples.

Both research and school policy in England and Wales has focused on exploring the use of proactive forms of aggression (including bullying) in schools, and reactive aggression has to date been neglected. However, it is essential that we identify the prevalence and patterns of the use of both reactive and proactive forms of aggression as both are prevalent in schools and place

children and adolescents at risk of harm. Employing a mixed methodological approach, a two-phased data collection procedure was followed to identify and explore a behavioural typology of the use of reactive and proactive aggression and differences in associated demographic, behavioural and socio-cognitive risk factors between the behavioural groups identified.

In Phase 1, focus groups were conducted with 57 (20 males, 37 females) children and adolescents aged 9 – 18 years, in order to understand how they define terminology utilised across the research literature to describe acts of negative interpersonal behaviour. Across three data collection sites participants reported consistent definitions of the terms provided to them and differentiated between the terms aggression, violence and bullying. Social representations of the reasons they believed people engaged and avoided engaging in interpersonal aggression also emerged from their talk. These related to the role of taking the perspective, or empathising with others and the perception of a level of justification for certain types of behaviour, enacted under certain conditions.

In Phase 2 a survey design was used to collect both qualitative and quantitative data from 658 children and adolescents aged 9-14 years (302 males, 356 females). The aim of Phase 2 was to identify a behavioural typology of the use of reactive and proactive aggression based on self-report data collected using a modified version of the Reactive-Proactive Aggression Questionnaire (RPAQ; Raine et al 2006). Once the behavioural subtypes were identified, associations between subtype and, involvement in bullying

relationships, demographic (age and gender) and social-cognitive characteristics (empathy, perceived acceptance of behaviour and social representations of why people become involved in negative interpersonal interactions) were examined. Cluster analysis of the RPAQ data identified three distinct behavioural groups characterised by lower than the sample median use of both types of behaviour (Low Aggression: characterising 57.1% of the sample), Moderate-high reactive and Low-moderate proactive aggression (characterising 34.4% of the sample), and finally a group indicating frequent use of both reactive and proactive aggression (High Aggression: characterising 8.5% of the sample). The only age and gender related differences within the clusters were found in the low frequency aggression cluster. Specifically, there were a greater proportion of females compared to males in this cluster. The only age related difference found was a greater percentage of primary school children compared to 13-14 year olds in the Low aggression cluster.

Group membership was found to be associated with self-reported bullying as measured by the Peer Victimization and Bullying Scale (Mynard and Joseph 2000). The High frequency aggression cluster contained a significantly higher percentage of those indicating being a bully or a bully-victim compared to the other two clusters. Whereas the Low frequency cluster contained a significantly higher percentage of those indicating not being involved in bullying compared to the other two clusters. However, reporting being a victim of bullying was not associated with any one of the three clusters. Of the socio-cognitive variables, a significant incremental increase was found in the perceived acceptance of both reactive and proactive aggression as the reported

frequency of the use of both types of behaviour increased across the three behavioural groups (as measured by a modified version of the RPAQ; Raine et al 2006). Conversely, an incremental decrease was observed between the frequency of the use of aggression and reported affective empathy (as measured by the Basic Empathy Scale; Jolliffe and Farrington 2006), with a significant difference being found between the Low and High frequency aggression groups. No significant differences between the groups in self-reported cognitive empathy were found. Finally, participants were asked two open-ended questions relating to their perception of why people are 'picked on', or 'pick on' others. Thematic Analysis identified a number of social representations held across the participant sample, with a further content analysis identifying that there were no significant differences in the extent to which these representations were endorsed by the three behavioural groups.

The findings of the current research have important implications for our understanding of the developmental pathways for the use of reactive and proactive aggression. They identify that both types of behaviour co-occur, suggesting that the risk factors for the development of these two types of behaviour may not be so distinct and/or the risk factors associated with each are likely to co-occur. Consequently, school behaviour policies need to include strategies for addressing both forms of aggression. Interventions to reduce/prevent this behaviour need to be designed to address the risk factors which are promoting the specific motivations of both reactive and proactive behaviour.

1.0 Introduction

The use of interpersonal proactive and reactive aggression in schools is a pervasive problem putting both the victims and perpetrators at risk of experiencing short and long-term harm (e.g. Pan and Spittal 2013; Penning, Bhagwanjee and Govender 2010; Ttofi, Farrington and Lösel 2012). Research suggests that up to 93% of school aged children aged 5 to 18 years' experience aggression from others at school (Demaray, Malecki, Secord and Lyell 2013). Aggression has been differentiated into two broad motivational subtypes (reactive and proactive), with research suggesting distinct developmental risk factors associated with each type (Carbon-Lopez, Esbensen & Brick 2010; Crick and Dodge 1994; Dodge and Coie 1987; Hampel, Manhal, Hayer 2009; Kempes, Matthys, de Vries and Van Engeland 2010; Marini Dane, Bosaki and Yic-Cura 2006). Reactive aggression refers to behaviour enacted in response to a perceived provocation and threat to personal safety and that which is not pre-planned (Crick and Dodge 1994; Dodge and Coie 1987; Kempes, Matthys, de Vries and Van Engeland 2010). Proactive aggression, in the context of interpersonal aggression is defined as goal oriented behaviour, perpetrated with the intent to cause harm. Behaviour can range from subtle covert behaviours such as rumour spreading to more overt direct verbal and physical attacks against other people or their property (Carbon-Lopez, Esbensen & Brick 2010; Hampel, Manhal, Hayer 2009; Marini Dane, Bosaki and Yic-Cura 2006). Proactive aggression also encompasses behaviour defined as bullying. Bullying is defined by The Department for Education as, 'behaviour by an individual or group, repeated over time that intentionally hurts another individual or group

either physically or emotionally' (DfE 2014: 6). However, across the research literature the definition of a bullying relationship is often extended to explicitly include the criteria of a power differentiation between victim and perpetrator and taking into account the perception of the behaviour being hurtful from the perspective of the victim (Olweus 1996).

Victims of interpersonal aggression have been shown to suffer from a range of negative physical and psychological consequences. These include decreased self-esteem, future involvement in delinquent behaviour, increased drug use (e.g. Carbon-Lopez, et al. 2010; Isaacs, Hodges and Salmivalli 2008), perceived lack of personal safety at school (Esbensen and Carson 2009), lower educational attainment (e.g. Beran, Hughes and Lupart 2008; Rothan et al. 2011) an increased risk of suffering from depression (e.g. Roth, Coles and Heimburg 2002), anxiety and relational difficulties in adulthood (e.g. Carlisle and Rofes 2007). Negative outcomes have also been found for those perpetrating these behaviours. The use of both reactive and proactive aggression has been negatively associated with friendship quality (Card et al. 2008; DeMonchy, Pijl and Zandberg 2004; Juvonen, Graham and Schuster 2003). Unique associations with experiencing social anxiety and a heightened risk of becoming the victim of bullying have been found with the use of reactive aggression (Cima and Raine 2009; Raine et al. 2006). The use of proactive aggression has been associated with poor school motivation and later life serious aggressive criminal offending (Cima and Raine 2009; Raine et al. 2006). As such it is vital that we gain a better understanding of the types of aggression being utilised in schools

and the risk factors promoting the use of these behaviours that are putting children and adolescents at risk of harm.

To date, research investigating the risk factors (for a review of the risk factors see Chapter 2) associated with the development of reactively and proactively aggressive behavioural repertoires have predominantly employed correlational designs to investigate the variables associated with reactive and proactive aggression separately (e.g. Lard et al. 2008; Little et al. 2003; Poulin and Boivin 2000; Vivitara and Brendgen 2005). Although useful in identifying risk factors associated with the development of either reactive or proactive aggression, this approach is particularly problematic given the moderate to high overlap in those reporting using both types of behaviour; $r = .41$ to $.83$ (e.g. Lard et al. 2008; Little et al. 2003; Poulin and Boivin 2000; Vivitara and Brendgen 2005). In acknowledgment that there is at least one sub-group of individuals characterised by the use of both types of behaviour, research is beginning to take a person-centred approach to investigating the nature of the use of these behaviours. This has involved taking a cluster analytic approach to analysing data in order to identify groups who display similar patterns of behaviours, rather than differentiating behavioural groups based on their use of reactive aggression or proactive aggression separately. The body of literature investigating child and adolescent behaviour using this approach is small, including only six studies (Crapanzano, Frick and Terranova 2010; Fite, Colder and Pelham 2006; Mayberry and Espelage 2007; Pang, Ang, Kom, Tan and Chiang 2013; Stickle, Martin and Thomas 2012; Unever 2005) The few studies that have been conducted suffer from methodological limitations which may limit

the reliability and generalisability of the results reported to the general child and adolescent population (see Chapter 6, Section 6.2.). However, a repeated finding across these studies is that they identify a group characterised by Low frequency and a group characterised by High frequency use of both reactive and proactive aggression (Crapanzano, Frick and Terranova 2010; Fite, Colder and Pelham 2006; Mayberry and Espelage 2007; Pang, Ang, Kom, Tan and Chiang 2013; Stickle, Martin and Thomas 2012; Unever 2005). However, the number of groups as well as the characteristics of members of the groups in between these two extremes are less clearly identified. These studies would suggest that the developmental risk factors for reactive and proactive aggression are not necessarily experienced in isolation. Exposure to the risk factors associated with one type of aggression may co-occur with exposure to the risk factors associated with the other, or it may be the case that there are shared risk factors. As existing theoretical perspectives argue that the two distinct forms of aggression arise from distinct developmental pathways/have different risk factors, there is a clear need to investigate the characteristics underling the use of these behaviours by children and adolescents who report using both.

To date there has been a heavy focus on the empirical investigation of the proactive form of negative behaviour, bullying. The DfE has legislated that every school in England and Wales must have a clear anti-bullying policy (The Education and Inspections Act, 2006 [89]: 1.b, 3, 5), which must be accessible to staff, students and parents. In addition to this, since January 2013, school Ofsted inspections now include a review of these policies to examine what

steps each school is taking to implement them. However, there is the risk that the focus on this specific subtype of behaviour in schools neglects behaviour that does not conform to the constraints of this definition, resulting in under developed intervention/prevention strategies (Finkelhor, Turner and Hamby 2012). The findings of a study by Hunter, Boyle and Warden (2007) demonstrate this. On a measure of peer aggression, 30.7% of a sample of 1,429 8-13 year olds reported experiencing repeated acts of peer aggression. However, when an additional filter was imposed to identify those within this group who perceived that the behaviour against them was intentional and there was a power imbalance between themselves and the perpetrator (thus defining the behaviour as bullying), only 38.1% of these (11.7% of the whole sample) defined themselves as being the victims of bullying. As such, approximately 20% of children and adolescents who experienced peer aggression escaped the attention of those adopting a strict definition of bullying. Although the victims of bullying were found to experience this peer victimisation qualitatively differently to those who did not perceive intent and an power imbalance (on measures of perceived threat and control and depressive symptomology) this does not justify neglecting to identify and help those who are experiencing harmful behaviours from their peers. A further gap in the research literature has been identified in relation to associations between the use of reactive aggression and bullying. Research has not clearly demonstrated that the use of bullying is necessarily associated with the use of reactive aggression or more general forms of proactive aggression (Camodeca et al. 2002; Crapanzano, Frick and Terranova 2010; Unever 2005). Therefore the focus on identifying those who bully others will not necessarily identify those in need of help to

control their use of more general forms of proactive aggression, nor reactive aggression. The overarching aim of this thesis therefore was to explore the use of reactive and proactive aggression in a sample of 9-18 year olds by identifying a typology of the use of such behaviours and explore their social representations of these behaviours. To do so the following research questions were explored,

1. How do children define terminology relating to the use of types of aggression, violence and bullying?
2. Do children and adolescents who engage in reactive and proactive aggression form distinct groups based on the type and frequency of behaviour they display?
3. Is membership in each of the behavioural groups associated with involvement in bullying?
4. Are there significant differences in the self-reported ability to empathise and the perception of the social acceptance of reactive and proactive aggression between the behavioural groups identified?
5. What are children and adolescents social representations regarding why people become involved in negative interpersonal interactions? Do these perceptions differ between the behavioural groups?

How the research questions were addressed-

Firstly, a review of the research literature investigating risk factors for the development of reactive and proactively aggressive behavioural repertoires was conducted (see Chapter 2). In order to identify the most reliable methodology for collecting data regarding children and adolescents use of aggression, a

review of the methods employed across the research literature to investigate negative interpersonal behaviour in samples of children and adolescents was conducted (see Chapter 3). The conclusions of this review provided a methodological blue print by which to construct the methodology employed to collect data for the thesis. The overarching methodology of the thesis is presented in Chapter 4, with details of the specific methodology employed for Phases 1 and 2 presented in Chapters 5 (Phase 1) and 6-8 (Phase 2).

The methodological literature review presented in Chapter 3 identified the necessity to adopt a two-phased approach to data collection. In Phase 1, a qualitative phase (presented in Chapter 5) addressed research question 1. Focus group interviews were conducted with 9-18 year olds to gain a better understanding of how children and adolescents subjectively define terminology related to aggression, violence and bullying. The purpose of this was to explore whether a consistent understanding was held between the researcher and children and adolescents regarding the definitions of terminology utilised across the research literature to describe forms of harmful negative interpersonal behaviours; terminology which may have been included in subsequent data collection materials. What also emerged from the participants talk were their perceptions of the risk factors for becoming involved in such interactions; risk factors, which were supported by the literature presented in Chapter 3. The conclusions drawn from the data obtained from Phase 1 then facilitated and contributed to the construction of a questionnaire employed in Phase 2. Phase 2 of the data collection involved the collection of both quantitative and qualitative data from a sample 9-14 year olds (see Chapters 5-8). A

questionnaire was employed to identify a behavioural typology of the use of reactive and proactive aggression and associations between subtype, and involvement in bullying, demographic, and socio-cognitive characteristics. The thesis concludes with a discussion of the findings and their implications for both the direction of efforts in schools to reduce the use of reactive and proactive aggression, methodologically for future research, and how the findings contribute towards our understanding of the development of reactive and proactive aggression (see Chapter 9).

2.0 Theoretical review of the risk factors for engagement in reactive and proactive aggression

A debate within the psychological literature centres on whether reactive and proactive aggression are actually two distinct subcategories of behaviour, with different motivational and developmental risk factors, or should be considered a single co-occurring behavioural construct. The implications of this debate are important in that if the two types of behaviour derive from different developmental antecedents, different intervention and prevention strategies will be required to reduce the prevalence of these behaviours. The argument suggesting that the two behavioural types should be considered a single construct has gained support from studies suggesting that the two forms of behaviour often co-occur (e.g. Fossati, Borroni, Eisenberg and Maffei 2010; Fung, Raine and Gao 2009; Raine et al. 2006). However, the counter argument, that the two types of behaviour should be viewed as two distinct subcategories, has strong evidenced-based support. This support is provided by the findings of studies which have identified unique risk factors for the development of reactive compared to proactive types of aggression (e.g. Arsenio, Adams and Gold, 2009; Coccaro et al. 2007; Crick and Dodge 1994; Dolan 2010; Hinnant and El-Sheikh 2009; Horsley, de Castro and Van der Schoot 2010; Hubbard et al. 2002; Huesmann 1988; 1997; Kruesi et al. 2004; Lorber 2004; Linder, Werner and Lyle 2010; Putman et al. 2010; Ortiz and Raine, 2004; Scarpa, Tanaka and Haden 2008; Sterzer et al. 2005; van Honk, Peper and Schutter 2005). The implications of identifying the risk factors for each type of behaviour are important for developing effective intervention strategies in schools to reduce the use of these behaviours that are putting children and adolescents at risk of

harm. In order to effectively reduce the prevalence of reactive and proactive aggression, firstly interventions need to, 1) differentiate between these behaviours and, 2) address the specific risk factors associated with the type of behaviour that is being displayed. If the two types of behaviour have distinct developmental risk factors, strategies aiming to reduce the use of proactive forms of behaviour may have limited effect on reducing the prevalence of reactive aggression and vice versa.

The General Aggression Model (Anderson and Bushman 2002) has proposed that reactive and proactive aggression develop through a complex interplay between individual and environmental risk factors within which the child develops. It suggests that the development of aggressive behavioural repertoires is not due to a single isolated risk factor. A framework which can be used to explain and organise the individual and environmental risk factors for the development of aggressive behaviour is Bronfenbrenner's (1979) Ecological Systems framework. Bronfenbrenner contended that individuals are part of a number of interrelated social systems that influence the development of behaviour. This has led to the suggestion that efforts to reduce the prevalence of negative behaviour in schools need to address not only the characteristics of the individuals who are displaying the behaviour, but also identify and address risk factors associated with the influences of the wider environment which facilitate and promote the use of reactive and proactive aggression (e.g. Hong and Espelage 2012; Ttofi, Farrington and Baldry 2008). The original formulation of the framework proposed that behaviour is influenced by three systems, the Microsystems, Exosystem, and Macrosystem (Bronfenbrenner 1979); with more

recent reviews adopting this model including youth characteristics or an ontogenetic level (Hong and Espelage 2012; Lee 2010). Ontogenetic factors refer to the characteristics of the individual, for example age, gender, individuals' physiological reactivity to stress and social-cognition. The microsystem encapsulates individuals' immediate environmental influences and is defined as 'a pattern of activities, roles and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics' (Bronfenbrenner 1979: 22). These immediate influences for children and adolescents include parents/carers and peers (e.g. Hong and Espelage 2012). The Exosystem encompasses 'one or more systems that do not involve the developing person as an active participant but in which events occur that affect, or are affected by, what happens in the setting' (Bronfenbrenner 1979: 237). These include systems such as the media (e.g. Gentile, Mathieson and Crick 2011; Huesmann et al. 2003; Linder and Gentile 2009; Martins and Wilson 2012) and living in communities/neighbourhoods within which the individual lives (e.g. Calvete and Orue 2011; Qouta et al. 2008; Chaux, Arboleda and Rincon 2012; Scarpa et al. 2008). Finally, the Macrosystem characterises risk factors associated with cultural or societal characteristics; for example, whether the culture the individual lives in is individualist or collectivist (Nesdale and Naito 2005), or has been associated with the cultural acceptance of aggression (Leung and Cohen 2011; Lim and Chang 2009; Scheithauer et al. 2006). This chapter presents a review of the research literature investigating risk and protective factors for the development of reactively and proactively aggressive behavioural repertoires by employing Bronfenbrenner's (1979) ecological systems framework. The aim of the review

was to identify risk and protective factors associated with the risk of developing reactively and proactively aggressive behavioural repertoires. In doing this, the review aimed to identify unique and shared risk factors for the development of the two types of behaviour.

2.1 Types of risk

When assessing risk factors for the development of reactive and proactive aggression it is important to identify factors that schools have the propensity to change in order to reduce the prevalence of these behaviours. Risk is ill defined across the research literature and little attempt has been made to define levels of risk. The only paper to have done so is that by Kramer et al. (1997). As such their framework will be employed in the current review. A risk factor is a variable that is statistically associated with an outcome (Bowen 2011; Kraemer et al. 1997). Kraemer et al. (1997) propose that a risk factor should precede the measured outcome. However, risk factors vary in the propensity to which they predict or are merely associated with an outcome. They define 'variable risk factors' (p. 340) as those which change and include variables such as age. Those which cannot be changed they term, 'fixed risk markers' (p. 340) and include variables such as gender and year of birth. They define risks factors which can be manipulated and shown to change the risk of experiencing the outcome as 'causal risk factors' (p. 340), whereas those which can be changed or manipulated but do not affect the risk of experiencing the outcome as, 'variable markers' (p. 340). Throughout the review this framework of risk will be applied to identify risk factors that would be of value to address by

intervention/prevention strategies that aim to reduce the prevalence of reactive and proactive aggression in schools.

2.2 Ecological risk/protective factors for the development of reactive aggression, proactive aggression and bullying

2.2.1 Individual and ontogenetic risk factors

Across the research literature, studies investigating risk factors associated with the development of reactive aggression compared to proactive forms of aggression have predominantly focused on individual variables associated with the individual on the Ontogenetic level. The current section will review such risk factors by presenting what is known about demographic (gender and age), physiological (autonomic arousal), personality, and social-cognitive risk factors associated with the development of reactive and proactive aggression.

Age

Age is considered a variable risk factor in the use of reactive and proactive aggression as behaviour has been shown to change with age, yet age cannot be manipulated (e.g. Card and Little. 2008; Dodge 2006; Kirves and Sajaniemi 2012; Monks et al. 2002; Pepler et al. 2006). Research investigating the use of aggressive behaviour throughout childhood and adolescence has identified a distinct maturation in the use and form of such behaviours (e.g. Card and Little. 2008; Dodge et al. 2006; Kirves and Sajaniemi 2012; Monks et al. 2002; Pepler et al. 2006). The frequency of the use of negative interpersonal

behaviour towards peers peaks within the pre-school years (below the age of 4 years), with the form of behaviour taking direct, physical and verbal forms (e.g. Kirves and Sajaniemi 2012). These early manifestations of negative behaviour towards others are not proactive, with the premeditated, pre-planned intent to achieve a goal through the use of harmful behaviour, or bullying per se (Monks et al. 2002; Perry, Willard and Perry 1990). It is not until the age of around 5-7 years that children develop the ability to predict the behaviour of others and to understand how to manipulate others to achieve a goal (Pons and Harris 2005; Pons, Harris and deRosnay 2004). Rather the use of such behaviours are purely a means of impulsive goal attainment (for example getting a toy from another child), or a reactive behaviour that is enacted with no prior thought of the consequences for the recipient (Crick and Dodge 1994). Before this developmental stage children lack the cognitive ability to carry out pre-meditated attacks with the intent of achieving an outcome through harming others. This therefore suggests that the use of reactive aggression precedes that of the ability to preconceive the use of proactive aggression to achieve a goal.

As children mature the form of behaviour they utilise also changes, from that which is predominantly physical, to more covert verbal behaviours (e.g. Nylund et al. 2007; Underwood, Beron and Rosen 2009). After the initial peak in the frequency of physical aggression during a child's preschool years (age 3-4 years), the use of physical aggression decreases throughout a child's time at primary school and continues to decrease during adolescence (e.g. Dodge 2006; Pepler et al. 2006). During late childhood through to adolescence a

number of social and cognitive changes occur which influence the type and form of proactive aggression children and adolescents utilise to achieve a desired goal. They develop impulse control and the language skills to verbally, rather than physically negotiate the acquisition of goals (e.g. Schwartz et al. 1998; Moffitt et al., 2002; Martin and Fabes 2001). In addition to this, a shift occurs in the goals children and adolescents wish to achieve during adolescence, goals which do not necessitate the use of physical proactive aggression. Moving from a focus on material gain during early childhood, the period of adolescence is characterised by a desire to achieve or maintain status within a peer group (Dijkstra et al. 2007; 2008; Eccles 1998; LaFontana and Cillessen 2009; Larson and Richards 1991). As such, the use of relational forms of proactive aggression emerge which serve to manipulate the social status of oneself and others in the peer group (Carbone-Lopez et al. 2010). Indirect, or relational proactive aggression involves the use of more subtle, covert types of behaviour involving the manipulation of social relationships (e.g. Carbone-Lopez et al. 2010). This type of behaviour takes the form of rumour spreading (Corvo and deLara 2010; Wang, Ionnotti and Nansel 2009). Particularly within the period of adolescence any behaviour which serves to socially isolate or ostracise individuals from a peer group can be particularly damaging to development as the role of these groups take on a more integral role for the development of self-identity at a time when children are transitioning into adulthood (e.g. Klimstra et al. 2010; Wigfield, Lutz and Wagner 2005). As such it is important to consider which types of behaviours are being utilised by different age groups.

Gender

Gender is considered a 'fixed marker' risk factor as it cannot be manipulated and remains consistent throughout the life span. There is general consensus across the research literature that males display more frequent use of reactive aggression compared to females (e.g. Bas and Yurdabakan 2012; Marsee, Weems and Taylor 2008; Mathieson and Crick 2010; Stickle, Marini and Thomas 2012). However, the gendered use of proactive forms of aggression is less clear. There is a general consensus that within the period of middle childhood through to adolescence males utilise direct physical forms of proactively aggressive behaviour (such as hitting and kicking) more frequently than females (e.g. Archer 2004; Card et al. 2008; Carbon-Lopez, Esbensen and Brick 2010; Dodge 2006). However, the findings regarding gender and the use of indirect or relational forms of proactive aggression within this developmental period are mixed. The common assumption that females utilise indirect and relational forms of aggression more frequently than males do has been supported by a number of studies (e.g. Smith, Rose and Schwartz-Mette, 2009; Xie, Farmer and Cairns 2003). However, this has been contested by others who have reported that males utilise indirect forms of proactive aggression as frequently as females (e.g. Carbon-Lopez, Esbensen and Brick 2010; Salmivalli and Kaukianen 2004; Scheithauer et al 2006). It has been established across participant samples that relational aggression is likely to be the predominant form of aggression utilised by females. Although males have been found to utilise physical forms of proactive aggression more frequently than females, males have also been shown to use relational forms of aggression as frequently as females do (Salmivalli and Kaukianen 2004).

Physiological risk factors

Blunted or heightened autonomic activity has been found to differentiate reactively and proactively aggressive children and adolescents (e.g. Coccaro et al. 2007; Dolan 2010; Hinnant and El-Sheikh 2009; Katz 2007; Kruesi et al. 2004; Lorber 2004; Putman et al. 2010; Ortiz and Raine 2004; Scarpa, Tanaka and Haden, 2008; Sterzer et al. 2005; van Honk et al. 2005). Autonomic activity is a causal risk factor for the development of reactive and proactive aggression as studies show that with the use of drugs, resulting changes in autonomic activity are accompanied by a reduction in aggressive behaviour (e.g. Hautmann, Rathenberger and Dopfner 2013). Differences have been observed in resting Anterior Nervous System (ANS) activity between reactively aggressive, proactively aggressive and non-aggressive individuals (Hinnant and El-Sheikh 2009; Katz 2007; Lorber 2004; Ortiz and Raine 2004; Scarpa, Tanaka and Haden 2008). The ANS, consisting of the Sympathetic (SNS) and Para-sympathetic Nervous Systems (PNS), ready the body for and calm the body after encounters with stimuli within the environment that evoke stress; such as encountering a perceived threat to safety. The SNS prepares the body to engage in a fight or flight response by increasing heart rate and subsequent oxygen dispersion in order to prepare the body for action. The PNS conversely acts as a calming mechanism to slow down heart rate, which subsequently allows an individual to engage in rational and strategic problem solving or to rest and digest the situation (Hessler and Katz 2007; Sijtsema, Shoulberg and Murray-Close 2011). Lower resting SNS activity (comparative to non-proactively aggressive individuals and those who display reactive forms of aggression) has been found in individuals who frequently display proactively aggressive

behaviour (Lorber 2004; Ortiz and Raine 2004; Scarpa, Tanaka and Haden 2008; Sijtsema et al. 2011); whereas the converse has been observed in those who frequently display reactive forms of aggression (Hinnant and El-Sheikh, 2009; Hubbard et al. 2002; Ortiz and Raine 2004); thus showing distinct and opposing physiological processes between those who display reactive aggression and those who display proactive forms of aggression. Although these differences have been found, they do not inform us of how they translate into behaviour, nor whether this autonomic activity can be mediated by other variables.

Personality

Personality Theory provides a link between autonomic arousal and behaviour (e.g. Eysenck 1967). Autonomic under-arousal, has been associated with the personality trait of stimulation or thrill seeking (Mathias and Stanford 2003). Arousal Theory suggests that autonomic under-arousal leads to the individual seeking stimulation to elevate the uncomfortably low level of autonomic activity (Zuckerman 1994); one such method by which to do this may be to engage in proactively aggressive behaviour. The trait of sensation or thrill seeking has been identified as unique risk factors for the development of proactive, compared to reactive types of behaviour (e.g. Raine et al. 2006; Xu, Farver and Zhang, 2009). However, in studies adopting a person-centred approach to identifying behavioural groups a different picture emerges. In a study by Crapanzano, Frick and Terranova (2010), three behavioural groups emerged from a cluster analysis of participants' data. One group was characterised by moderate use of reactive aggression, one by the frequent use

of both reactive and proactive aggression, and one group used neither. Both behavioural groups who were characterised by the use of negative interpersonal behaviours indicated engaging in thrill or sensation-seeking behaviours, with the combined reactive and proactive aggression group scoring the highest on this measure. Conversely, autonomic over-arousal however, has been associated with the use of reactive aggression (Lorber 2004; Ortiz and Raine 2004; Scarpa, Tanaka and Haden 2008; Sijtsema et al. 2011) and with personality trait of impulsivity (e.g. Barry et al. 2007; Fite, Stoppelbein and Greenbing 2009; Raine et al. 2006). With an individual's body in a constant state of readiness to engage in a fight or flight response, such individuals are more sensitive the threats in their environment (as will be discussed later), and more likely to react to situations where they perceive danger; actual or not (e.g. Fontaine 2008). However, again where studies have identified and differentiated groups who display frequent use of both reactive aggression and proactive aggression, this combined group has scored highest in comparison to other groups on measures of impulsivity and, in comparison to groups characterised by the predominant use of reactive or proactive behaviours, scored the highest on measures of impulsivity (Crapanzano et al. 2010; Stickle, Marini and Thomas 2012). This therefore suggests that certain personality traits are indicative of risk factors associated with the use of reactive and proactive aggression, yet when measured in groups characterised by the frequent use of both types of behaviours, these personality traits appear to be more severe. Studies investigating associations between personality traits and behaviour, which show groups characterised by the frequent use of both reactive and proactive aggression, identify that reactive and proactive behaviour can co-occur. This

contradicts the findings of studies which focus on autonomic arousal, which identify distinct risk factors associated with the two types of behaviour. This therefore suggests that factors other than autonomic arousal influence behaviour in a subset of individuals.

Social Cognition

Reactive and proactive aggression are inherently social phenomena that are displayed within an individual's social environment (Craig, Pepler and Atlas 2000). Individual differences in the way in which individuals interpret the behaviours of others in these environments have been shown to be risk factors for the use of reactive and proactive aggression (e.g. Arsenio, Adams and Gold 2009; Choe et al. 2013; Crick and Dodge 1994; Horsley, de Castro and Van der Schoot 2010; Hubbard et al. 2002). Social Information Processing models (Crick & Dodge 1994; Huesmann 1988; 1998) have been formulated and empirically supported in their ability to differentiate how those who display reactive aggression compared to proactive aggression differ in their social-cognition. Such models are useful in organising how aspects of social-cognition result in the use of reactive and proactive aggression. The six step model of social information processing proposed by Crick and Dodge (1994) will be employed as a framework for understanding research relating to socio-cognitive variables which have been shown to be associated with the use of reactive and proactive aggression. The Social Information Processing model by Crick and Dodge (1994) states that deficits or biases in the early stages of processing are risk factors for the use of reactive aggression, whereas biases in the latter stages of processing promote the use of proactive aggression. The following

section will detail the six steps of the Crick and Dodge's (1994) model and risk factors associated with reactive aggression and proactive aggression at each stage.

Steps 1 and 2- Social information processing and reactive aggression

The first step in the Social Information Processing model encapsulates an individual's unconscious search threats within their immediate environment (Crick and Dodge 1994). Once the social cues have been attended to, the second step is to interpret the intent of these cues (Crick and Dodge 1994). Research has identified that reactively aggressive individuals are more sensitive to and attend to perceived threats in their immediate environment more so than non-aggressive and proactively aggressive individuals (e.g. Linder, Werner and Lyle 2010). At this stage of processing individuals who display reactive aggression are more likely to hold hostile attribution biases which lead to behavioural enactment before further processing occurs (e.g. Choe et al. 2013; Crick and Dodge 1994). A hostile attribution refers to the belief that another individual or group intends to cause harm that promotes reactive, defensive behaviour (Crick and Dodge 1994). Compared to proactively aggressive and non-aggressive children, reactively aggressive children are more likely to attribute hostile intent to ambiguous or non-threatening situations (e.g. Arsenio, Adams and Gold 2009; Horsley, de Castro and Van der Schoot 2010; Hubbard et al. 2001). Upon the attribution of hostile intent (real or perceived), reactively aggressive children experience intense feelings of anger (Frustration-aggression hypothesis, Berkowitz 1989) that lead to the enactment of reactive behaviours. What this model therefore suggests is that risk factors for the development of reactive aggression are biases in attention and interpretation of

the intent of others (e.g. Arsenio, Adams and Gold 2009; Horsley, de Castro and Van der Schoot 2010; Hubbard et al. 2001). However, in order to address and change these aspects of social-cognition, it is important to identify why such biases have developed. This will be further explored in the discussion of the microsystem, exosystem and macrosystem levels (see sections 2.2.2.to 2.2.4).

Steps 3-5 Social information processing and proactive aggression

The final steps of the Social Information Processing model are associated with risk factors for the use of proactive forms of aggression (Crick and Dodge 1994) and involve the conscious pre-planning of goal attainment and the consideration of the advantages and disadvantages of a course of action (Raine et al. 2006). By definition, the use of proactive aggression is motivated by the desire to achieve a goal (e.g. Arsenio, Gold and Adams 2009; Hubbard et al. 2001; Malti 2007). The third step of the social information-processing model suggests that proactively aggressive individuals are more likely to select hostile goals relative to non-aggressive individuals (Crick and Dodge 1994). The fourth step of the model states that once a goal is selected children and adolescents draw upon a repertoire of possible behaviours that they can use to achieve this goal (Crick and Dodge 1994). Research has consistently identified that proactively aggressive children in comparison to reactively aggressive and non-aggressive children will draw upon the use of aggressive behaviours, rather than non-aggressive means by which to achieve a desired goal (e.g. Dodge et al. 1990). Once a set of behaviours have been identified, individuals then engage in a process of considering the effectiveness

and potential outcomes of the chosen behaviour in achieving the desired goal (Step 5). A consistent finding is that those who utilise proactive forms of aggression report a greater level of anticipation of achieving positive outcomes from the use of aggression compared to reactively aggressive and non-aggressive individuals (Arsenio, Gold and Adams 2009; Crapanzano et al. 2010; Hubbard et al. 2001; Malti 2007). As around 85% of negative interactions occur in the presence of others (Guerra, Williams and Sadek 2011) and one of the main developmental goals of adolescence is to maintain membership within a peer groups (Eccles et al. 1998; LaFontana and Cillessen 2009; Larson and Richards 1991), an important consideration for the use of any behaviour is how the recipient and others in the wider social group will react. Within the Ecological Systems framework, the consideration of how others will react to the use of behaviour is considered a risk factor on both an ontogenetic and a microsystems level. The current section will review risk factors relating to the individual's ability to empathise and their perception of the peer group's acceptance of the use of aggressive behaviours (both of which are at the individual or ontogenetic level).

Recognising and reacting to the emotions of others

The ability to understand and experience the emotions of others has been found to be an important, risk/protective factor in the use of interpersonal forms of proactive aggression (e.g. Arsenio, Adams and Gold 2009; Crick and Dodge 1996; Gini 2006; Scarpa et al. 2010). The ability to affectively empathise is postulated to act as an inhibitory mechanism against the use of proactively aggressive interpersonal behaviour (e.g. Mayberry and Espelage 2007, Pouw et

al. 2013). Although no standardised definition of empathy has been constructed, empathy is generally defined and differentiated across the academic literature as consisting of a cognitive and affective component (Baron-Cohen et al, 2004; Cohen and Strayer 1996; Jolliffe and Farrington 2006). A definition that reflects both of these elements is that by Cohen and Strayer (1996), who defines empathy as, 'the ability to identify, predict and vicariously experience another's emotional state' (Cohen and Strayer 1996). Cognitive empathy refers to an individuals' ability to identify and predict the emotions of another individual in a given situation (for example, understanding that if someone has their toy taken away from them they will feel sad; Jolliffe and Farrington 2006a). Whereas, affective empathy, builds upon the ability to cognitively empathise with the addition of a change in the observer's emotional state to reflect the emotion they believe the other is experiencing. For example, experiencing fear upon witnessing another individual who you perceive to be scared (Espelage, Mebane and Adams 2004; Gini 2006). If an individual who can affectively empathise causes harm to others, they vicariously experience the negative emotions as experienced by the recipient of their actions. This shared negative experience of emotion acts to 'punish' the perpetrator, and consequently they are likely to avoid engaging in such behaviours in the future; thus acting as a protective factor against the use of proactive aggression (e.g. Mayberry and Espelage 2007, Pouw et al. 2013). Research has found that proactively aggressive children are more likely to have a reduced ability to affectively empathise compared to non-proactively aggressive children and adolescents and therefore do not experience the negative affect associated with inflicting pain on to others (Dadds et al. 2009; Jolliffe and Farrington 2006; 2011;

Mayberry and Espelage 2007; Warden and Mackinnon 2003). The ability to affectively empathise should be considered a protective factor against the use of proactive aggression, rather than an aspect of social cognition that actively promotes the use of behaviour. The ability to affectively empathise acts as an inhibitory mechanism against the use of proactive aggression at this stage of processing due to the anticipated negative affect the perpetrator expects to experience as a result of inflicting pain on others. Therefore, for those with a reduced ability to affectively empathise, they are less likely to consider experiencing negative affect upon witnessing others pain as a drawback for using aggression to achieve a goal (e.g. Mayberry and Espelage 2007, Pouw et al. 2013).

A factor that has been repeatedly identified as differentiating those who display reactive compared to proactive aggression is the reporting of callus-unemotional traits (Rosan and Costea-Barluti 2013; Thornton, Frick, Crapanzano and Terranova 2013). An individual characterised as displaying such traits is defined as displaying an absence of empathy in addition to a lack of guilt and remorse for anti-social behaviour, low emotional expression, and the tendency to use others callously for their own gain (Rosan and Costea-Barluti 2013). Those who display proactive behaviours are repeatedly found to score higher on measures of callus-unemotional traits in comparison to those displaying reactive aggression (Rosan and Costea-Barluti 2013; Thornton, Frick, Crapanzano and Terranova 2013). However, again in the studies identifying a group characterised by the frequent use of both reactive aggression and proactive aggression (Crapanzano et al. 2010; Stickle et al.

2012) this combined group reported the highest scores on the measure of callus unemotional traits. Again, this further supports the need to acknowledge groups who display both types of behaviour, as they appear to experience and displaying the most severe risk factors associated with both types of behaviour.

A substantial amount of research has been conducted to investigate risk factors associated with the use of reactive and proactive aggression, as has been detailed in the current section. This indicates distinct differences across individual-level variables between those who display reactive and proactive aggression. To summarise, gender and age effects have been repeatedly found. Males have been repeatedly shown to display both types of behaviour more frequently than females (e.g. Bradshaw, Waasdorp and O'Brennon 2013; Card et al. 2008; Dodge et al. 2006; Kirves and Sajaniemi 2012; Monks et al. 2002; Pepler et al. 2006; Vlachou et al. 2011). After an initial peak in reactive type behaviours within early childhood, the frequency of negative interpersonal behaviours decreases as a child matures into and through adolescence, with the form maturing from more overt, physical forms of behaviour to more covert verbal and relational behaviours (Bradshaw, Waasdorp and O'Brennon 2013; Nylund et al. 2007; Underwood, Beron and Rosen 2009). On a more individual level, differences in autonomic arousal have been found in children and adolescents who use reactive compared to proactive behaviours; showing distinct and opposing autonomic activity (Dolan 2010; Hinnant and El-Sheikh 2009; Katz 2007; Kruesi et al. 2004; Lorber 2004; Putman et al. 2010; Ortiz and Raine 2004; Scarpa, Tanaka and Haden, 2008; Sterzer et al. 2005 van Honk et al. 2005). What these differences in autonomic arousal cannot account for

however, is the behaviour of those who have been found to frequently display both reactive *and* proactive aggression. Across different dimensions of personality (Mathias and Stanford 2003; Raine et al. 2008; Xu, Farver and Zhang 2009) and social information processing (Arsenio, Adams and Gold 2009; Choe et al. 2013; Crick and Dodge 1994; Orobio de Castro et al. 2005; Horsley, de Castro and Van der Schoot 2010; Hubbard et al. 2002), distinct differences have again been found between those who display reactive compared to proactive aggression. However, across these dimensions the risk factors for the development of the two types of behaviours are not opposing. The risk factors associated with reactive and proactive aggression can and have been shown to be experienced by individuals who display both reactive and proactive aggression (Crapanzano et al. 2010; Mayberry and Espelage. 2007; Stickle, Marini and Thomas 2012). Thus there are distinct risk factors for the development of reactive and proactive aggression, however, risk factors for the development of both types of behaviours can co-occur within an individual. What this level of analysis does not indicate is how risk factors at this level develop or are reinforced.

2.2.2 Microsystem

The microsystem describes an individual's immediate environmental influences (Bronfenberenner 1979). Groups/individuals within the microsystem serve as models from whom behavioural responses are learned or conditioned (e.g. Barnett et al. 2005; Crugnola et al. 2011; Ireland and Smith 2009; Karreman and Vigerhoets 2012; Panfile and Laible 2012; Roque et al. 2013).

For children and adolescents these influences are from parents/carers, family and peers.

Social Learning Theory (Bandura 1973; 1986) asserts that people learn through a process of observing others. The observer, or learner, attends to the behaviour used by key figures or models (e.g. parents, older siblings) and observes the outcomes achieved by the use of such behaviour. The context in which the behaviour is displayed, the behaviour and observed outcome is then synthesised and memorised. In a similar context the learner may recall the behaviour and observed outcome from a model and utilise such behaviour to achieve a similar outcome for themselves. Similarly behaviours which have been observed as having a negative outcome will not be utilised. Social Learning Theory (Bandura 1977) is a key theory associated with the development of aggressive behavioural repertoires (e.g. Baldry and Winkel 2003; Barnett, Miller-Perrin and Perrin 2005; Ireland and Smith 2009).

The following section will review literature investigating the influence of parental/caregiver and peer behaviour on the development of reactive aggression and proactive aggression with reference to how these groups influence the development of the risk factors presented in the previous section.

Family risk factors

Early life experiences play an integral role in influencing future behaviour (e.g. Ambrose and Menna 2013; Barnett et al. 2005; Ireland and Smith 2009; Monks et al. 2005). Specifically, the role of the caregiver has been linked empirically to the modelling of social behaviour (e.g. Barnett et al. 2005; Ireland

and Smith 2009), the development of an individual's ability to regulate their own emotions (e.g. Champagne 2008; Feldman et al. 2011; Meany 2010; Schanberg et al. 2003) and to the ability to recognise the emotions of others; all of which are associated with the use of reactive and proactive aggression (as discussed previously).

The role of the parent/carer in aiding the development of emotional regulation

An integral role of the caregiver within infancy is to regulate the infant's emotional state (e.g. Champagne 2008; Feldman et al. 2011). The consistency of this regulation plays an important role in the development of the infant's neurological development in areas of the brain associated with autonomic and emotional regulation and recognition (e.g. Champagne 2008; Feldman et al. 2011). As detailed previously, a reduced ability to regulate one's own emotions has been associated with the use of reactive forms of aggression (e.g. Hinnant and El-Sheikh 2009; Hubbard et al. 2002; Katz 2007; Ortiz and Raine 2004), whereas, the blunted ability to recognise and experience the emotions of others are associated with the use of proactive forms of aggression (Mayberry and Espelage 2007; Pouw et al. 2013). The process by which a caregiver regulates an infant's emotion is through a process known as parent-infant synchronicity (e.g. Ambrose and Menna 2013; Feldman et al. 2011); whereby parent-child physical and non-physical contact regulates an infant's autonomic activity. Research has observed that upon physical contact with a caregiver, almost instantaneous heart rate synchronisation occurs between care-giver and infant (e.g. Feldman et al. 2011). Caregiver-child interactions of co-vocalisations,

mutual gazing, and the matching of affective facial expressions (important for self-regulation of emotions; e.g. Weinberg and Tronick 1994) are also suggested to be effective in regulating an infant's physiological state. This early caregiver regulation is integral for the development of children's autonomic maturation (e.g. Feldman et al. 2011) and future ability to self-regulate their own emotions (e.g. Champagne 2008; Feldman et al. 2011; Meaney 2010). Certain caregiver characteristics also pose the risk of a reduced ability on the part of the caregiver to identify and regulate the infant's emotions effectively, such as prolonged time periods of depression (Ashman et al. 2002) or stress (Caldji, Dorio and Meaney 2000). Generally, risk factors for the development of the emotional deregulation which are associated with the use of reactive and proactive aggression include low levels of parental warmth towards the child (Meaney 2001; O'Neal et al. 2010), and unresponsive parenting (Brotman 2005; 2009). However, research suggests that the development of healthy emotional regulation is formed upon the dyadic relationship between parent and child. That is, the parent must regulate the infant's emotional state when necessary, but also allow the child to learn strategies upon which to regulate their own emotions by exploring strategies for self-regulation (Beebe 2000); a failure to allow for this has been found to be a risk factor for the development of both reactive and proactive aggression (Kuppens 2013; Rathert, Fite and Gaertner 2011; Vitaro et al. 2006; Xu, Farver and Zhang 2009). Parenting behaviours that control a child and those which instil fear and guilt can undermine the child's autonomy and create a dependence upon the parent for approval and emotional regulation (Bayer, Sanson and Hemphill 2006; Rathert, Fite and Gaertner 2011). As such they can contribute to the maladaptive autonomic arousal

associated with the use of reactive and proactive aggression and proactive that was detailed in section 2.2.1.

Inter-parental aggression as modelling and normalising aggressive behaviour

The caregiver also models behaviour that children might use in future social relationships (e.g. Garcia, Restubog and Denson 2010; Ireland and Smith 2009; Monks et al. 2005). As detailed above Social Learning Theory (Bandura 1973) asserts that children learn behaviour by observing the outcomes of behaviour displayed within their environment and subsequently adopt behaviours that they have observed to achieve desirable outcomes. Research has found that witnessing or experiencing aggressive behaviour within the home environment is a risk factor for children using such behaviours in the future (e.g. Baldry 2003; Knous-Westfall, Ehrensaft-MacDonell and Cohen 2011). Frequently observing aggression serves to normalise the use of such behaviours. This serves two functions, firstly as a model of what to expect from social relationships and secondly, to model behavioural repertoires to utilise within future social relationships (Boxer, Gullan and Mahoney 2009; Huesmann and Kirwil 2007; Monks et al. 2005). As such, frequent exposure to aggression in the home has been associated with the use of reactive aggression, as children expect to experience aggressive behaviour from hostile attribution biases and expect others to act aggressively towards them (e.g. Calvete and Orue 2011; Huesmann 1988). It has also been empirically associated with the formation of behavioural scripts upon which proactively aggressive children can

draw as part of Step 4 of the Social Information Processing model (Section 2.2.1).

The role of the peer group

As detailed previously the period of adolescence is characterised by the need to belong to a peer group (Dijkstra et al. 2008; Eccles 1998; LaFontana and Cillessen 2009; Larson and Richards 1991) and as such a consideration of the impact of displaying aggressive behaviour upon maintaining membership within the peer groups is an important determinant of its use (e.g. Dijkstra et al. 2008; Huitsing and Veenstra 2012; Jones, Manstead and Livingstone 2011; Perkins, Craig and Perkins 2011; Sentse et al. 2007; Espelage et al. 2003; Werner and Crick 2004). As detailed in section 2.2.1.5 an individual's favourable attitudes towards the use of proactive aggression is a risk factor for its use (Arsenio, Gold and Adams 2009; Hubbard et al. 2001; Krettenauer and Eichler 2006; Malti 2007). Research has also identified that an individuals' attitudes towards the use of negative behaviours has been shown to reflect those of their peer group (e.g. Dijkstra et al. 2008; Huitsing 2010; Jones, Manstead and Livingstone 2011; Perkins, Craig and Perkins 2011; Sentse et al. 2007; Espelage et al. 2003; Werner and Crick 2004). Children and adolescents have been shown to modify their attitudes and behaviour to align with the peer group that they belong to, in order to integrate into a peer group (Ojala and Nesdale, 2004). As such, the use of negative behaviours within these groups is likely to be received with less disapproval and punishment (in the form of social exclusion within the peer group) and a greater level of acceptance and rewards than within groups who disapprove of this behaviour; thus reinforcing the continued use of the behaviour (e.g. Nesdale et al. 2009; Scholte, Sentse and

Granic 2010). The Behavioural Similarity Hypothesis (Cairns et al. 1988) postulates that children form peer groups on the basis that they share behavioural characteristics. Therefore, there is value in investigating the effectiveness of behaviour change interventions that specifically target peer groups who hold and reinforce positive attitudes towards the use of proactive aggression. For more detailed review of the role of perceived social acceptance in the use of proactive and reactive aggression, see Chapter 7.

The behaviour of the peer group towards individuals is also an influential risk factor for the continuation of reactive aggression. Research has shown that reactively aggressive individuals are more likely than proactively aggressive individuals to become the victims of bullying (Salmivalli and Issacs 2005; Salmivalli and Helteenvuori 2007). For children and adolescents who hold hostile attribution biases regarding the intention of those around them to cause them harm, this victimisation is likely to serve to reinforce this perception and thus exacerbate the problem further (Salmivalli and Issacs 2005).

Those within an individual's micro system therefore influence the development and continuation of both reactive and proactive aggression, with shared environmental factors being risk factors the development of both types of behaviour. A home environment in which children are not provided with enough support and freedom to regulate their emotional state may lead to difficulties in autonomic functioning, in turn leading to emotional deregulation associated with the use of reactive and proactive aggression (Kuppens 2013; Loukas, Paulos and Robinson 2004; Rathert, Fite and Gaertner 2011; Vitaro et al. 2006; Xu, Farver and Zhang 2009). Furthermore, those within an individual's microsystem have also been shown to play an important role in developing

socio-cognitive scripts for modelling and anticipating aggression (e.g. Garcia, Restubog and Denson 2010; Ireland and Smith 2009; Monks et al. 2005). As such those within an individual's micro-system serve to model aggressive behavioural repertoires, and to condition reactive responses to perceived threats in an individual's immediate environment. Although it is not within the control or power of schools to influence the behaviour of the family before the child reaches school age, nor the legal rights to impose behavioural strategies at home, a review of risk factors at this level identifies the influence of others in developing socio-cognitive scripts that promote the use of reactive and proactive aggression. It should be noted here that schools do have the obligation where there are serious concerns about a child's behaviour to inform the local authority and where necessary ask parents to sign a parenting contract or apply for a court parenting order to ensure that children attend school and behave appropriately whilst at school (DfE 2012). Beyond this, school based interventions with parents are at the individual schools' discretion.

2.2.3 Exosystem

The Exosystem refers to 'one or more systems that do not involve the developing person as an active participant but in which events occur that affect, or are affected by, what happens in the setting' (Bronfenbrenner 1979: 237). Such systems include the community in which the individual lives and also popular media. Such systems act to reinforce children's and adolescents' perception of the use of proactively aggressive behaviour as 'normal' (e.g. Allwood and Bell 2008; Bradshaw et al. 2009; Orue et al. 2011).

Community aggression

The role of community aggression has been found to be a risk factor for the development of both reactive and proactive aggression in samples of children (e.g. Calvete and Orue 2011; Qouta et al. 2008; Chaux, Arboleda and Rincon 2012; Orue et al. 2011; Scarpa et al. 2008). Regularly witnessing aggressive behaviour within the community serves to normalise the use of such behaviour (e.g. Allwood and Bell 2008; Bradshaw et al. 2009; Orue et al. 2011), to legitimise its use (Chaux, Arboleda and Rincon 2012) and in turn help remove moral constraints which would inhibit children's and adolescents' use of harmful behaviours against others (e.g. Chaux, Arboleda and Rincon 2012). The Neighbourhood Disorder Model (Wandersman and Nation 1998) suggests that frequent exposure to community aggression is likely to result in children interpreting the world as an unsafe place and resulting in children being in a hyper-alert state in which they expect to encounter such behaviour, thus leading to the development of hostile attribution biases to those within their social environment (e.g. Calvete and Orue 2011; Scarpa et al. 2008; a risk factor associated with the use of reactive aggression). Although schools can do little to remove children from a community environment which makes them more susceptible to developing aggressive behavioural repertoires, aspects of social cognition such as hostile attribution biases towards those around them and the perception of the social acceptance and normality of the use of proactive aggression can be addressed (Chaux et al. 2012). However, caution should be taken in doing so. Research investigating the role of these cognitions has shown that they can also act as a protective factor against the psychological damage living in aggressive communities can cause. Weierstall et al. (2013) found that the use of proactive forms of aggression for enjoyment by

adolescents living in an aggressive community acted as a protective mechanism against symptoms of post-traumatic stress disorder (Weierstall et al. 2013). As such, living in communities where aggressive behaviour regularly occurs increases children and adolescents' exposure to the use of these behaviours. This serves to normalise these behaviours as well as be a model through which to learn such behaviours and what they can achieve. These therefore become risk factors for the development of socio-cognitive risk factors associated with the risk of developing reactive (hostile attribution biases) and proactive aggression (normalisation of behaviour, models to learn behaviour and support for its use).

Other models of behavioural influence

Children and adolescence are also exposed to aggression via the media. The extent to which this exposure influences the use of such behaviours by those who watch it is complex and multi-dimensional. It has been suggested that the media may serve as an additional reinforcing influence through which children and adolescents become exposed to aggressive behaviour and learn such behavioural repertoires and their outcomes (e.g. Coyne and Archer 2004; Feshbach 2005; Gentile, Mathieson and Crick 2011; Huesmann et al. 2003; Linder and Gentile 2009; Martins and Wilson 2012). Repeated exposure to behaviour leads to the perceived normalisation of such behaviour (Bandura, 1977), and this can contribute to the development of hostile attribution biases (as a result of children and adolescents expecting aggression to be part of interactions with others) and/or the perception that rewards can be gained from the use of such behaviours (Bandura 1977). Consequently, regular exposure to aggressive behaviour via the media *may* serve to further reinforce the

normalisation of its use. Studies investigating the frequency with which children are exposed to aggression in television programmes have found that even those aimed at children and those in their early teens contain both physical and social aggression (Coyne and Archer 2004; Feshbach 2005; Martins and Wilson 2012). In a recent study by Martins and Wilson (2012), of the 50 most watched television programs (by 2-11 year olds), 92% contained some form of social aggression, with the frequency of such behaviours occurring on average every four minutes. This study revealed that there were no significant associations between the use of a negative behaviour and the perpetrator facing a negative outcome as a consequence of its use.

Positive associations have been found between the frequency of exposure to media aggression and the frequency of the use of proactive aggression (Gentile, Mathieson and Crick 2011; Huesmann et al. 2003; Linder and Gentile 2009). Only one study has investigated its association with reactive aggression; this too found a positive association between frequency of exposure and the use of this form of behaviour (Gentile et al. 2011). However, from such studies it cannot be concluded that the media exposure was the causal factor in the use of aggressive behaviour. It may be the case that individuals exposed to aggression in more closely proximal elements of their eco-system are more likely to seek out aggressive media and/or utilise the aggressive media to reinforce their use of such behaviour. The influence of macro-level risk factors are difficult to distinguish and differentiate from the more proximal influences on children and adolescents' behaviours, such as those described in the ontological and micro-levels detailed previously. Therefore, macro-level influences are mediated by more proximal influences but

this is a bi-directional relationship. That is, someone who has grown up with aggressive models (microsystem), *may* be prone to engage with aggressive media (macro-level) and this *may* then reinforce cognitive and behavioural contingencies promoting behaviour (Hong and Espelage 2012).

2.2.4 *Macrosystem*

The macrosystem describes a 'cultural blueprint' for behaviour (Bronfenbrenner 1979). Limited psychological research has been conducted to investigate the role of the wider culture that an individual belongs to in influencing the development of proactive aggression (Bowman, Prellow and Weaver 2007; Gelfand et al. 2012; Leung and Cohen 2011; Holt and Espelage 2012; Severence 2013), and none relating to the use of reactive aggression. Influences at this level relevant to the use of proactive aggression include cultural values regarding the appropriateness of the use of behaviour and for what means it is being displayed. Leung and Cohen (2011) describe three types of cultural values or, 'logics'. They maintain that cultural logics of honour, dignity and face, each either promote or inhibit the use of aggressive behaviour and differentiate how different cultures utilise and perceive the acceptance of aggression. For example, honour cultures value public displays of individual and family honour and are more likely to view aggression as acceptable as a means to publically restore honour when they perceive that they or their family have been shamed (e.g. Bowman et al. 2007). Conversely, those who follow a cultural logic of 'dignity' are more likely to hold cultural values that promote equality and self-worth. Such cultures do not promote the public use of aggression and frown upon its use as a means of conflict resolution (e.g. Gelfand et al. 2012; Leung and Cohen 2011). As a developing child witnessing

the reactions of those around them upon witnessing acts of aggression will, again serve to model not only behavioural scripts for the use of such behaviour, but also serve to act as models by which children learn when it is appropriate to use aggressive behaviour against others. As such, it is important that in any attempt to reduce the use of aggressive behaviour that the values of the wider culture within which children and adolescents belong is understood (Hong and Espelage 2012).

2.3 Conclusion

The aim of this review was to identify the known risk and protective factors associated with the development of reactively and proactively aggressive behavioural repertoires. In doing this, the review also aimed to identify unique and shared risk factors for the development of the two types of behaviour. By adopting an Ecological Systems Framework the current review identified risk factors for the development of reactive and proactive aggression on an individual through to societal level. On an ontogenetic or individual level, distinct risk factors have been found to be associated with the development of reactive and proactive aggression. These included autonomic arousal, personality traits and individual differences in social information processing. The differences between those who display reactive and proactive aggression highlight the need to identify and address the specific needs of those displaying the two forms of behaviour, if intervention strategies in schools are going to be effective. By investigating associations across the microsystem, exosystem and macrosystem levels the role of the close family and peer relationships though to the influence of the wider community and society in developing the ontogenetic and individual risk factors for the development of reactive and proactive

aggression were identified. Although schools are not in a position to change these wider systems, the research identified in the current review that these factors influence the development of bias or maladaptive social-cognition which lead to the display of these forms of behaviour which are putting children at the risk of harm at school. Although the majority of research to date has investigated risk factors for the development of reactive compared to proactive aggression, recent research adopting a person-centred approach to identifying behavioural groups have consistently found that there are groups of children who frequently use both forms of behaviour, and report experiencing more severe combinations of risk factors associated with the development of both reactive and proactive aggression (e.g. Crapanzano et al. 2010; Mayberry and Espelage 2007; Stickle et al. 2012). Due to the limited number of studies investigating behavioural typologies of reactive and proactive aggression, relatively little is known about those children who display both reactive *and* proactive aggression. Consequently, this thesis aimed to investigate children's and adolescents' use and understanding of reactive and proactive aggression by adopting a person-centred approach to developing a behavioural typology of their use of reactive and proactive aggression. Associations with the use of these behaviours and bullying were then explored. This was followed by an investigation of demographic differences (gender and age group) between the behavioural groups. Finally, differences in socio-cognitive risk factors (empathy and perceived acceptance) between those in the different behavioural groups were explored. The need for the research that is presented in this thesis is primarily driven by methodological issues that characterise the existing work in this area, and which are reviewed in Chapter 3.

3.0 The influence of methodology upon reported prevalence rates of proactive and reactive aggression and bullying during adolescence

3.1 Introduction

An issue for both academics and school personnel is how to accurately measure the prevalence of reactive and proactive aggression across samples of children and adolescents. This is important to identify accurately in order to allocate appropriate resources to tackle the problem in schools (Grigg 2010; Naylor et al. 2006). Furthermore, with the introduction of The Education and Inspections Act, 2006 [89]: 1.b, 3, 5, schools are now required to provide evidence that they are implementing effective strategies to reduce the prevalence of bullying. It is therefore important that schools understand how to identify bullying accurately, and differentiate it from more general forms of proactive aggression. In reviewing the research literature it becomes apparent that there are a number of methodological variations in the measurement of reactive aggression, proactive violence and bullying across the research literature. Closer inspection identifies that these methodological variants compromise the reliability of the prevalence figures obtained. As the aim of the current thesis is to explore a behavioural typology of the use of reactive and proactive aggression and investigate its associations with bullying, it is integral that an accurate method for assessing these behaviours is identified and employed. As such the current chapter will explore methods employed to investigate the prevalence of negative interpersonal behaviours across the

research literature and review their impact upon the reliability of prevalence statistics obtained.

The aim of this chapter was to systematically review published research which has investigated the prevalence of reactive and proactive aggression and bullying, identifying the methods employed and discussing the impact of these methods upon the prevalence data reported. This review therefore has three main functions: to understand the prevalence of the use of the three forms of behaviour; to understand the prevalence of these behaviours when accounting for the methodological variants identified in the review; to serve as a methodological blueprint for the research conducted and reported in this thesis (see Chapters 5-8).

The methodological elements selected for review in the current chapter were informed by those identified in the review presented in the previous chapter. These include, the definition of the behaviour under investigation, the impact of terminology included in data collection materials, the time scale within which participants are asked to reflect upon their behaviour and who is being asked to complete the behavioural measures (self versus others). However, typically, studies vary from each other on more than one methodological dimension. Therefore, it is not possible to compare the prevalence rates observed across groups of studies employing the exact same methodology. The review therefore compared studies that shared one or more methodological element. In order to do this a systematic literature review was conducted.

3.2 Method

The review adhered to the guidance for undertaking systematic reviews outlined by Boland, Cherry and Dickenson (2013). This nine step process involved firstly defining the research question and writing the research protocol. Steps two to five involved searching for and obtaining relevant papers. To do this a search of the academic journal articles was conducted using the search terms detailed in Table 1 and imposing the limiters detailed below (step 2). The titles and abstracts of the results of the search were then screened and articles that were not relevant for the review were rejected (step 3). Of those that were relevant a search for the full-texts was then carried out. The full-texts were then read to ensure that they contained the relevant information for the review and those which did not were rejected (steps 4 to 6). Relevant data were then extracted from the papers and summarised in Tables 3 and 4 (step 7). Finally, this data was then synthesised in order to answer the research question (see Table 2) and the results were then written up (see Section 3.4).

3.2.1 *Research protocol*

Identification of studies

Research articles were identified by searching the journals included in the Academic Search Complete and PsychINFO databases.

Inclusion and exclusion criteria

The search terms used to identify studies reporting the prevalence of reactive and proactive aggression and bullying are reported in Table 1. Studies

were included if they presented the percentage of their sample who reported engaging in the behaviours of interest to the review.

Table 1. The search terms included to identify prevalence figures of reactive and proactive aggression.

Behaviour type	Search terms
Reactive aggression	'reactive aggression', 'reactive violence'
Proactive aggression	'Proactive aggression', 'proactive violence'
Bullying	'Bullying' NOT 'Cyber bullying' or 'Cyberbullying'

The search was constrained by imposing a number of limiters. These restricted the search results to those that were peer reviewed, and published in English between 2000-2014. This date range was selected for pragmatic reasons. First, in order to ensure that the most contemporary methods and findings were reviewed. Second, with no date limiters the search returned 2,812 articles. Consequently, the date limiters enabled a manageable number of articles to be reviewed in the available timescale. Only studies employing participants aged 6-18 years and those that investigated behaviour in samples of non-clinical/specialised samples were included.

3.3 Results

Quantity of research available

Electronic searches identified a total of 1950 citations across all of the search terms 295 related to proactive and reactive aggression and 1,655 to bullying. These were then screened to ensure that they matched the inclusion criteria by firstly reading the title of each article and excluding the articles that were not relevant (e.g. the study employed a clinical sample). Of those that were relevant, the abstracts were read and where they appeared to fit the

inclusion criteria, the full text was sought. A summary Table of the articles included in the review is presented in Table 2. Tables 3 and 4 detail the studies included in the review. It should be noted here that of all of these studies investigated reactive and proactive aggression. No single study investigated reactive aggression exclusively.

Table 2. Summary of results of the literature search indicating the range of prevalence figures identified from studies employing different methodologies.

		Reactive and proactive aggression				Involvement Bullying			
		Number of Articles	Reactive aggression	Proactive aggression	Both	Number of Articles	Bully	Victim	Bully/victim
Reported by	Self-report	5	3-100%	3-72%	3-68.5%	39	1.1-36.2%	1.3-93%	0.1-16.5%
	Others-report	6	5.9-28.3%	3.5%-67.5%	8%-10.3%	11	1-25%	1.8-22%	2.4-2.9%
Definition of behaviour	Definition	-	-	-	-	16	2.3-22.4%	11-93%	1.9-6.5%
	No definition	-	-	-	-	2	-	-	-
	Not stated	-	-	-	-	20	3.4-37%	4-47%	0.9-15.3%
Time frame reference	Past week	-	-	-	-	3	2.7-6%	1.3-5.6%	0.1%
	Past month	-	-	-	-	3	-	-	-
	Past two months	-	-	-	-	6	1.2-13.8%	6.2-93%	1.7-6.5%
	Past three months	-	-	-	-	2	26.4-36.2%	14.9-43%	-
	Past six months	-	-	-	-	7	2.3-19%	5.2-39.8%	0.9-10.2%
	Past term	-	-	-	-	3	2.8-35.9%	9-44.9%	-
	Past school year	-	-	-	-	3	6.1%-37%	6.4-47%	2.7%
Prevalence range			3-100%	3-67%	3-68.5%		1-37%	1.3-93%	0.1-15.3%

Table 3. Research investigating the prevalence reactive and proactive aggression

Author	Participants	Time Scale/frequency of behaviour	Reported by	Format (interview/questionnaire)	Prevalence
Chan, Fung and Gerstein (2013)	1,356 aged 11-18 years, 59% males from Hong-Kong	Not specified	Self-report	Questionnaire RPQ (Raine et al., 2006)	Proactive/Reactive 3% Proactive 3% Reactive 11% Not involved 66%
Chaux, et al. (2012)	1,235 aged 8-18 years, 50.3% males from Columbia	Not specified	Self-report	Questionnaire 2 questions for reactive aggression, 2 for proactive aggression For proactive aggression refers to 'bullying'	47.5% Non-aggressive 14.4% Only Proactive 23.6% Reactive and Proactive
Crapanzano, Frick and Terranova (2010)	282 aged 9-14 year olds (M= 11.28), 46% males from the USA	Not specified	Self-report	Questionnaire Peer conflict scale (Marsee & Frick, 2007)- 40 items to measure reactive and proactive aggression	63% low reactive and proactive. 30.2% high on reactive only. 6.5% high on both types of behaviour.
Hunter, Boyle & Warden (2007)	1429 aged 8-13 years (M=9.37 primary, M= 12.42 secondary) 50.2% males UK	Past 2 weeks	Self-report	Questionnaire- measuring pro-active only	35.6% experiencing one-off acts 30.7% repeated acts
Koolen, Poorthuis and van Aken (2012)	173 10-13 year olds, 57.2% males from the Netherlands	Not specified	Peer report	Questionnaire 16 questions Modified version of the Teacher report Instrument for Reactive aggression and Proactive aggression (Polman et al., 2008)	67.5% nominated by one or more peers as displaying proactive aggression, 28.3% reactive aggression
Mayberry and Espelage (2007)	433 aged 12-15 years (M=13), 45.5% males from USA	Past three months	Self-report	Questionnaire Little (2003)- 12 behavioural descriptions.	Uninvolved 53% High proactive aggression 17% High reactive aggression 21% High proactive/reactive 8%
Pavlovic, Zunic-Pavlovic and Glumbic (2013)	348 students Aged 12-18 years (M= 14.96), 53% males	Not specified	Self-report and teacher report	Questionnaire The Children's Scale of Hostility and Aggression: Reactive-Proactive (Farmer and Aman, 2009) and the Reactive-Proactive Aggression Questionnaire (RPQ) (Raine et al., 2006)	Self-report- Proactive aggression 72%, reactive aggression 100% Teacher report- Proactive aggression 15%, Reactive aggression 5%
Salmivalli and Nieminen (2002)	1062 aged 10-13 years old, 50% males from Finland	Not specified	Teacher and peer report	4 behavioural descriptions of Reactive Aggression and 4 proactive aggression. 'Similar' to Dodge and Coie (1987)	Reactive aggression 5.4%, Proactive aggression 8.8%, Reactive aggression/Proactive aggression 3.2%, Not involved 8.2%
Vitaro, Brendgen and Tremblay (2002)	2,550 10-12 year olds, 51.6% males from Canada	Not specified	Teacher reports	6 items assessing proactive aggression and reactive aggression from the Social Behaviour Questionnaire (Dodge & Coie, 1987).	3.5% proactive only, 5.9% reactive only, 10.3% reactive and proactive aggression, 80.3% non-aggressive

Table 4. Research investigating the prevalence of bullying

Author	Participants	Definition presented to participants?	Words 'bully' or 'bullying' included?	Reported by	Time Scale/ frequency of behaviour	Format (interview/questionnaire)	Prevalence
Atik and Guneri (2013)	742 aged 11-15years (M=13.1) 47% males from Turkey	Yes	Yes	Peer and self-reports	Past two months	Questionnaire Olweus Bully/Victim Questionnaire (OBVQ, 1996)	Categorised if peer or self reported involvement Bully 4.6% Victim 21.3% Bully/victim 6.5%
Baldry and Farrington (2004)	239 aged 10-16 years (M=13.2) 52.4% males from the UK	Not specified	Yes	Self-report	Past three months	Questionnaire Two questions- involved as bully or victim	Bully 26.4- 36.2% Victim 34-43%
Camodeca Goossens, Schuengel and Terwogt (2003)	236 children age 7-9 years (M=8), 56% males from Netherlands	Not specified	Not specified	Self and peers	Not specified	Questionnaire- participant role scale- list of behaviours	9.3% bullies, 15.5% victims,
Camodeca, Goossens, Meerum and Schuengel (2002)	242 aged (M=8.75), 47.9% males from the Netherlands	Not specified	Not specified	Peers	Not specified	Questionnaire- Seven descriptions of behaviour- asked who they best fit	Bullies- 7.4% Victims- 5.4% Bully/victims- 2.9%
Carbone-Lopez, Esbensen and Brick (2010)	1222 (M= 12.25) 47% male from the USA	Not specified	Not specified	Self-report	Past six months	Questionnaire- List of five behaviours	Victims Direct 5.2% Indirect 32.4%
Cole, Cornell and Sheras (2006)	10-14 years (U.S. grades 6-8)	Not specified	Not specified	Peers	Past month	Questionnaire- Maynard and Joseph peer victimisation and bullying scale List of behaviours, indicate how often used	Bully 20.6%
Cross et al. (2011)	1968 aged 9-9 years (M= 8.6) Approximately 50% males from Australia	Yes	Yes	Self-report	Past term	Questionnaire	Bullies- 2.8% Victim- 16.3%
Demaray et al. (2013)	137 aged 8-14 years, 54.7% males from the USA	Yes	Yes	Self, parent, teacher	Past couple of months	Questionnaire OBVQ (1996)	Victim Self- 93% Parent- 67.8% Teacher- 38.6%
Estell, Farmer and Cairns (2007)	419 aged 13-15 years, 45% males from the USA	Not specified	Not specified	Peers and teachers	Not specified	Questionnaire- Teachers- Interpersonal competence scale. Peers- nominate peers who fit a	Bully 11.7% Victim 13.4% Bully/victim 3.6%

						behavioural description	
Franks, Rawana & Brownlee (2013)	263 aged 11-15 years (M=12.91) 42% males From Canada	Yes	Yes	Self-report	Past six months	Questionnaire OBVQ (1996)	Bullies- 2.3% Victims- 11%
Strom, Thoresen, Wentzel-Larsen and Dyb (2013)	7343 15-16 year olds from Sweden	Not specified	Yes	Self-report	Past 12 months	Questionnaire One question regarding experiencing victimisation	Victim- 14.6%
Gofin and Avitzour (2012)	2610 aged 12-14 53.2% male	Not specified	Not specified	Self-report	Past school term	Questionnaire Two questions asking about perpetrating and victimisation	Bully 28.1% Victim 44.9%
Goldweber, Waasdorp & Bradshaw (2013)	10254 aged 11-15 years, 51% males From USA	Yes	Yes	Self-report	Past month	Questionnaire Ten bullying behaviours	Victim 18.7%
Green, Felix, Sharkey and Furlong (2013)	435 aged 10-15 years, 51.8% male from USA	1. Yes 2. no	1. Yes 2. No	Self-report	Past month	Questionnaire- 1. Olweus Bully Victim Questionnaire 2. California Bully-Victimization Scale (not including definition or word 'bully').	With Olweus scale- 22% victims California scale- 39.3% victims Only 75% of those identified as bullies by the California scale were identified as bullies by the Olweus scale.
Hemphill et al. (2010)	791 aged 11-14 years (M=12.9) 48% males from Australia	Not specified	Yes	Self-report	Not specified	Questionnaire	Bullies 17.4-36.2% Victims 36.2-38.4%
Hunter, Boyle & Warden (2007)	1429 aged 8-13 years (M=9.37 primary, M= 12.42 secondary) 50.2% males UK	Not Specified	Not Specified	Self-report	Past 2 weeks	Questionnaire Scale devised by Hunter, Boyle and Warden (2004)	Victims 11.7%
Jankauskiene, Kardelis, Sukys and Kardeliene (2008)	1162 aged (M= 14 years) 11-16 years From Lithuania	Not specified	Not specified	Self-report	Past two months	Questionnaire- 12 questions asking how many times participants had experienced behaviours	12.7% victims, 16.3% bullies.
Jolliffe and Farrington (2006)	720 aged 13-17 years (M=14.8) 52% males From the UK	Not specified	Not specified	Self-report	Past school year	Questionnaire	Bullies- Female- 14.8% Males- 26.9%
Houlston and Smith (2009)	637 aged 11-14 years from the UK	Yes	Yes	Self-report	Past school term	Questionnaire	Bullies- 8.2- 8.6% Victims- 9-19.5%

Kendrick, Jutengren & Stattin (2012)	880 aged 12-16 (M=13.72), 49.4% males from Sweden	Not specified	Not specified	Self-report	Current semester	Questionnaire Involvement in 4 behaviours	Bully 35.9% Victims- 35.7%
Kokkinos and Panayiotou (2004)	202 aged 11-15 years. 51% males from Greece	Not specified	Yes	Self-report	Not specified	Questionnaire 24 item scale	Bully 8.4% Victim 21.5% Bully/victim 15.3%
Luk, Wang and Simons-Morton (2012)	7508 11-15 year olds, 47.7% males From USA	Yes	Yes	Self-report	Past two months	Questionnaire OBVQ (1996)	Victim- Physical 13.8% Verbal 37.9%
Marsh, McGee, Nada-Raja & Williams (2010)	1169 aged 15 years. 45% males from New Zealand	Not specified	Not specified	Self-report	Past school year	Questionnaire Involvement in five behaviours	Bully 37% Victim 47%
Magklara et al. (2002)	2427 aged 16-18 years, 41% males from Greece	Yes	Yes	Self-report	Past two months	Questionnaire Two questions, involvement as bully or victim	Past month- Bully 14.6% Victim 7.1% Bully/victim 4.7% Weekly- Bully 2.7% Victim 1.3% Bully/victim 0.1%
Marini, Dane and Bosacki (2006)	7290 aged 13-18 years (M=15.7), 48% males from Canada	Not specified	Not specified	Self-report	Past school year	Questionnaire- Twelve behaviours	Direct bullying Bully 6.1% Victim 7.9% Bully/victim 7.1% Indirect bullying Bully 6.6% Victim 6.4% Bully/victim 2.7%
McGuckin, Cummins and Lewis (2009)	7223 aged 11-16 year olds, 50.9% males From Ireland	Not specified	Yes	Self-report	Past 12 months	Questionnaire Two questions regarding victimisation. Yes/no and how often	Bullies 8.1% Victims 17.2%
McMahon et al. (2010)	3750 aged 15-17. 53.2% males From Ireland	Not specified	Yes	Self-report	Past year	Questionnaire- 'Have you been bullied at school'?	Victims 4.3%
Onder and Yurtal (2008)	273 11-13 year olds 63.7% males from Turkey	Not specified	Not specified	Not specified	Peer reports	Questionnaire Four open ended questions, 'who most [behaviour] in class'?	Bully 42.2% Victim 29.7%
Pereira et al. (2004)	4092 aged 9-16 years from two areas of Portugal	Yes	Yes	Self-report	Past school term	Questionnaire- OBVQ (1996)	Bully 22 and 22.4% Victim 18.4 and 21.6%
Perren & Hornung (2005)	1107 From Sweden	Not specified	Not specified	Self-report	Past week	Questionnaire List of ten behaviours	Bully 6% Victim 4%
Rodkin &	10-11 year	Not specified	Yes	Peer and	Not specified	Questionnaire-	13.2% victims

Berger (2008).				teacher		Classified as a bully or victim if nominated by 2 or more peers	7.2% bullies 2.4% Bully/victims
Rønning et al. (2009)	8 years	Not specified	Yes	Parent, teacher and self-report	No time scale imposed	Questionnaire- Two questions- Perpetrator- I/[child] bully almost everyday/sometimes/ usually do not. Similar format to indicate victimisation	Frequent bullies- Teacher- 6.6% Parent- 1% Children- 2% Frequent victimisation- Teacher- 2.3% Parent- 1.8% Child- 6.6%
Scheithauer et al. (2006)	2086 aged 8-14 years, 49% males from Germany	Yes	Yes	Self-report	Not specified	Questionnaire- Definition and list of behaviours	Bully 12.1% Victim 11.1% Bully/Victim 2.3%
Solberg & Olweus (2007)	14,465 aged 11-15 7191 girls 7274 boys	Yes	Yes	Self-report	Past couple of months	Questionnaire	Prevalence- Victim 9.5%; Bully 4.6%; bully/victim 1.9%
Siyahhan Aricak and Cayirdag-Acar (2012)	419 12-14 year olds, 51.5% males from Turkey	Yes	Yes	Self-report	Past two months	Questionnaire	Verbal- Bully-9.9% Victim- 22.9% Bully/victim- 16.5% Physical- Bully- 1.2% Victim- 6.2% Bully/victim- 1.7%
Tippett and Wolke (2013)	4668 aged 10-15 years (M= 12.51) 49.5% male From the UK	Not specified	Yes	Self-report	Past six months	Questionnaire	Bully 2.4% Victim 11.3% Bully/victim .9%
Vaillancourt et al., 2008	154 children mean age 9.7 years 74 boys, 80 girls	Yes	Yes	Self-report	Past 3 months	Questionnaire	Victimisation only- Physical (14.9%), Verbal (28.6%) and Social (22.7%)
Wilkins-Schurmer et al. (2003)	805 aged 13 (M=13.6) 49.1% males from Australia	Not specified	Yes	Self-report	Past term and past week	Questionnaire- Two questions- asked how many times bullied in past week and past school term	Victims School term 37.3% Past week 5.6%
Wolke, Woods, Bloomfield and Karstadt (2000)	2011 aged 6-9 years (M=7.6) 49.7% males	Not specified	Not specified	Self-report	Past six months	Interview Experience of 6 behaviours	Bullies- 4.3% Victims- 39.8% Bully/victims- 10.2%
Wolke, Woods and Samara (2009)	663 6-9 year olds from the UK	Yes	Yes	Self-report	Past 6 months	Interview	Victim of direct behaviours 22.5% Victim of indirect behaviours 10.4%
Woods and Wolke (2004)	1016 6-9 year olds (M= 7.52) 49% males	Not specified	Not specified	Self-report	Past six months	Interview- Six questions about involvement	Direct Bully 3.4% Victim 41.3%

Bully-victim 10.9%
Relational-
Bully 1.1%
Victim 41.8%
Bully-victim 5.9%

3.4 Literature review

This section of the review details the main methodological variants that have been found to affect the reported prevalence of reactive and proactive aggression, and bullying. This section is structured by reviewing the implications of how studies operationalise and measure behaviour in terms of the definition of the behaviour employed and presented to participants, the impact of including certain terminology in data collection materials, the time reference within which participants reflect upon their behaviour and the impact of employing a self-versus others (peers/parents/teachers) reported methodology. For each methodological element discussed the range of prevalence figures obtained using this method will be provided. This will be followed by a critique of the strengths and limitations of each method for obtaining prevalence figures of the three types of behaviour in samples of children and adolescents. The chapter then concludes with a methodological framework by which to investigate reactive aggression, proactive aggression and bullying in samples of children and adolescents.

3.4.1 *Operationalising reactive and proactive aggression and bullying*

The way in which behaviour is defined across the research literature and how each piece of research operationalised and measured behaviour is integral for accurate measurement of prevalence and the comparability of findings to those of other studies. Inconsistent definitions and operationalisation of terms are issues

across the literature investigating reactive aggression, proactive aggression and its sub-type bullying.

Defining and measuring reactive aggression

As detailed in the previous chapter there is theoretical and empirical support for the existence of two distinct sub-types of negative behaviour; reactive and proactive aggression. Proactive aggression is defined as, 'Instrumental, organised, and "cold-blooded" with little evidence of autonomic arousal' (Raine et al. 2006: 160). Reactive aggression, however, is defined as, 'fear induced, irritable and hostile affect-laden defensive response to provocation' (Raine et al., 2006: 161). The findings across the research literature have presented an inconsistent picture regarding the prevalence and behavioural patterns of the use of reactive and proactive aggression (see Chapter 6). However, what is clear from the literature presented in Chapter 2, is that the two types of behaviour have clear and distinct behavioural motivations. As such, data collection materials must differentiate between planned, goal-driven behaviours (proactive) and emotive, reactive behaviours (reactive aggression).

Defining and measuring bullying

Bullying is a specific sub-type of proactive aggression defined by the Department for Education as, 'behaviour by an individual or group, repeated over time that intentionally hurts another individual or group either physically or emotionally' (DfE 2011: 4) with the additional criteria utilised by some across the

research literature of a power differentiation between victim and perpetrator (e.g. Olweus 1996). It is therefore essential that researchers differentiate this from more general forms of proactive aggression. However, this definition is not consistently understood or operationalised across the research literature. For example there is disparity between the understanding of what constitutes bullying between those researching compared to those experiencing/witnessing this type of behaviour (Frisén, Holmqvist and Oscarsson 2008; Maunder, Harrop, and Tattersall 2010; Monks and Smith 2006; Rodkin and Berger 2008; Smith et al. 2002; Vaillancourt et al. 2008). Furthermore research suggests that as children age they are more likely to differentiate the different types of aggression and bullying, suggesting a disparity between children themselves. For example, Smith, Olafsson and Liefhoghe (2002), found that in a sample of 8-14 year-olds who were provided with a picture and a brief description of the behaviour being depicted, the 14 year-olds were much more critical and differentiated between different types of aggression and between those behaviours they considered to be bullying compared to general acts of aggression (e.g. at one off fight). The Eight year-olds however, were much less sophisticated in their differentiation, predominantly categorising purely between aggressive and non-aggressive behaviours. This disparity between children themselves and between children and those researching bullying is particularly problematic when asking participants to indicate their involvement in bullying based upon open-ended questioning, rather than asking them to indicate their involvement based upon a list of discrete behaviour and/or a definition. One influence in this disparity, particularly between researchers and children is that, research suggests that the use of the

term bullying itself can influence the reported prevalence rates of victimisation across studies due to, 1) the variations in the level of understanding children hold regarding what constitutes a bullying relationship (Frisén et al. 2008; Kert, Coddington, Tryon and Shiyk, 2010; Rodkin and Berger 2008; Vaillencourt et al. 2008), and 2) the negative connotations children and adolescents associate with the term 'bullying' within data collection materials. Of the studies included within this review 17 asked participants to indicate their involvement by answering a global, yes/no question regarding their involvement in bullying. Of these only 9 specified that they had provided their participants with a definition of bullying following that defined by Olweus (1996) including the criteria, of a repeated set of behaviours, intended to cause harm and perceived as harmful by the victim. Whereas 20 studies did not report whether or not they provide their participants with a definition or did not specify which definition they included. The range of prevalence figures obtained from studies providing the participants with a definition of bullying ranges from 2.3 to 22.4% (bullies) and 11% to 93% (victims). Whereas of these studies not providing a definition, or not stating whether a definition was provided, the reported prevalence ranges from 2.4 to 37% (bullies) and 4 to 47% (victims). The following section will discuss the implications of providing a definition of bullying when asking participants the open ended questions regarding their involvement in bullying relationships. As bullying is a specific subtype of proactive violence it is particularly important that children and adolescents differentiate their involvement in this specific subtype of behaviour from more generalised forms of reactive and proactive forms of aggression.

Implications of the use of language and providing a definition

A reason for the disparity between prevalence figures obtained from studies providing versus not providing a definition of bullying is that there appears a difference between researchers and children/adolescents in their understanding of what characterises bullying. A small number of studies have directly investigated the impact on reported prevalence of the provision of the definition of bullying compared to not providing participants with a definition. Vaillancourt et al. (2008) provided half of a participant sample with a definition of bullying (following that suggested by Olweus, 1996) and half without. The two groups were then asked to indicate whether they had been the victim of bullying. They found that those who were provided with a definition reported significantly lower rates of victimisation compared to those without a definition. The participants in Vaillancourt et al.'s. (2008) sample, who were not provided with a definition were then asked to describe their understanding of bullying behaviour. They found that this group of participants neither consistently mentioned the use of repeated behaviours, intentionality of the behaviour, nor a power imbalance between perpetrator and victim; core aspects of how researchers conceptualise bullying and differentiate it from general forms of proactive aggression (e.g. Carbon-Lopez et al. 2010; Kaltiala-Heino, Frojd and Marttunen 2010; Pepler et al. 2006; Scheithauer et al. 2006; Solberg and Olweus 2003). This inconsistency between researcher's and children's and adolescents' understanding of how bullying is defined was further supported by the findings of Frisén et al. (2008). When asked to describe, 'a bully'

they found that 70% of their sample of 13 year- olds did not mention the criterion of repeated behaviours and 81% did not mention a power imbalance between victim and perpetrator. To ensure that children and adolescents are reporting on their use/involvement in the behaviour under investigation by the researcher, it is important that the researcher either provides a definition that makes the criteria of the behaviour under investigation clear, and/or asks participants to provide a description of their own understanding of what constitutes a bullying relationship. Alternatively, participants could be provided with a list of discrete behaviours, and asked to indicate their involvement in these behaviours against the criteria of a bullying relationship. For example, participants could be asked how often they have perpetrated purposeful behaviours on the list within a certain time period. Perpetration more than once would indicate a bullying relationship.

Finally, research has identified that children and adolescents may hold a stereotypical understanding of the characteristics of a bully and therefore may base their indication of who bullies others on a narrow and inaccurate schema (e.g. Rodkin and Berger 2008). Despite research suggesting that both boys and girls engage in bullying behaviours (Card et al. 2008; Kert et al. 2010). Rodkin and Berger (2008) found that when asked to indicate those who bully within their school class, the nine to ten-year-old participants' responses indicated a narrow schematic representation of those involved in bullying. Participants predominantly nominated *boys* who were physically and relationally aggressive as being bullies. Furthermore, qualitative research repeatedly finds that victims are perceived to be

in some way different to the rest of the peer group (Frisen et al. 2007; 2008; Guerra, Williams and Sadek 2011; Thornberg and Knutsen 2012; Thornberg, Rosenqvist and Johansson 2012). A consequence of this narrow perception of who bullies others and who is the victim is that when reporting bullying, adolescents may be discounting the relevance of experiences they may have had with perpetrators who do not fit the stereotype they hold, or they may not want to associate themselves with being a victim and thus being 'different' from the peer group.

In addition to the implication that children and adolescents have a schema of the characteristics of those involved in bullying, Rodkin and Berger (2008) found that participants characterised those who bully in terms of displaying high levels of negative behaviours and being disliked by others. Other studies support that adolescents hold a negative perception of those who bully and suggest that the use of the word 'bullying' itself may have an influential effect on participants' willingness to report their involvement in these types of relationships. Kert et al. (2010) investigated this idea by dividing their sample of participants into three groups and administering each group a different version of a questionnaire (one without a definition or use of the word 'bullying' and two with a definition; one with repeated use of the word 'bullying' and one only mentioning the word within the definition). They found that the reported rates of victimisation were significantly lower in the condition where both a definition and repeated use of the word 'bully' were used compared the other two conditions. This suggests that, firstly,

participants may hold negative connotations regarding being perceived as a victim of bullying, and/or secondly, that the word bullying itself may have an effect upon adolescent's willingness to associate their experiences of peer victimisation with bullying. As such this should be considered when interpreting the prevalence figures collected within studies whose surveys includes the word 'bullying'.

Further research is needed to investigate this perception of the term 'bullying' and also of children and adolescents' perception and understanding of those involved as both perpetrators and victims of this type of relationship. To date, only very few qualitative studies have investigated children's and adolescents' understanding and perceptions of those involved in bullying (e.g. Frisen et al. 2007; 2008; Guerra, Williams and Sadek, 2011; Thornberg and Knutsen 2012; Thornberg, Rosenqvist and Johansson 2011); none of which have been conducted in the UK. Furthermore, no such studies have been conducted to investigate children's and adolescents' understanding of more general forms of aggression. The review of the research literature highlights a gap in the research literature around our understanding of children and adolescents understanding how children and adolescents differentiate bullying to more general forms of reactive and proactive aggression. To the researcher's knowledge, no research has been conducted to understand how children and adolescents understand and differentiate more general forms of proactive and reactive aggression to bullying. As such it is unclear whether similar issues regarding the shared understanding of general forms of proactive and reactive aggression are also apparent between

researchers and children/ adolescents. Therefore, what the first empirical study presented in the thesis (Chapter 5) investigated was how children and adolescents define and differentiate between terminology relating to bullying, proactive and reactive aggression. What the existent research investigating the perception and understanding of bullying highlights is the need to ensure that bullying is clearly defined to participants in order to ensure that both those who are experiencing it, and those researching bullying hold a shared understanding of what the participants are being asked to reflect upon. In order to avoid any ambiguity in children and adolescents' understanding of what constitutes proactive and reactive aggression and bullying, the empirical study presented in chapter 6 sought to investigate the prevalence of these types of behaviours. This data was collected via itemised scales consisting of lists of behaviours associated with proactive and reactive forms of aggression. Although this section has predominantly focused on the literature investigating bullying, the conclusions of this section also have important implications upon the measurement of more general forms of proactive aggression. From the review of the literature, it was identified that the term, 'bullying' was being included in measures of more general forms of proactive aggression. In the current review one study whose aim was to measure proactive aggression utilised terminology relating to bullying in their data collection materials (Chaux et al. 2012).

Frequency of involvement

A further methodological variation between studies investigating reactive and proactive aggression and bullying is the time frame within which researchers

ask participants to reflect upon their use or experience of such behaviours. For example, some researchers ask participants how often in the past six months they have been involved in the behaviours specified (Carbone-Lopez et al. 2010), whereas others ask participants how often these behaviours had been displayed or experienced within the past week (Frisén et al. 2008). This difference in time scale is a particular issue when measuring the prevalence of bullying. There is no standardised reference to suggest how often a behaviour must be repeated, nor over what time period in order to be defined as bullying. Highlighting the impact of this methodological variation Frisén et al. (2008) reported a significant difference in the prevalence of those report being bullied 'every day' (.2% females, .8% males) compared to 'less than once a week' (9% females, 11% males). Similarly, studies asking participants to indicate how many times they have experienced bullying behaviours during the past week have yielded prevalence figures of between 5 and 24% (Frisén et al. 2008; Perren et al. 2010; Vaillancourt et al. 2008) which are comparatively lower than studies asking participants to indicate their victimisation within the past school year (47%; Marsh et al. 2010). Table 3. shows the range of prevalence figures obtained from studies which vary in terms of the time scale within which participants are asked to reflect upon their behaviour. As can be seen in Table 3 studies asking participants to reflect upon their behaviour over the past week obtain significantly smaller prevalence figures than studies asking participant to reflect upon their behaviour over the past month or more. The only published guidelines relating to the time scale that participants should be asked to draw upon are those of Solberg and Olweus (2003) in relation to bullying research. They

suggested that in order to observe a significant difference between those 'involved' and 'non-involved' as victims or perpetrators, there should be a lower bound cut off of considering those involved in bullying to display, or be the victim of aggressive behaviours at least, 2 or 3 times within a month. As such, when interpreting the prevalence statistics of reactive and proactive aggression and bullying, the time frame within which participants have been asked to report upon their behaviour is important.

From the review presented in this Chapter a number of methodological decisions informing the methodology for the empirical research of this thesis were made. Firstly, this section of the review highlighted an inconsistent understanding between researchers and children and adolescents' understanding of what characterises bullying. Furthermore, it also identified a lack of research investigating the understanding of more general forms of proactive and reactive aggression. Therefore, the first empirical study reported here (Chapter 5) investigated children's and adolescents' understanding of terminology relating to aggression, violence and bullying. Secondly, for the collection of prevalence data, itemised scales were used whereby the participants were asked to indicate their involvement in a list of behaviours. This was to avoid any ambiguity in what the researcher was interested in investigating and misinterpretation by the participants. Within these itemised scales, the term 'bullying' was not used in order to avoid the negative connotations that the term can elicit, which could influence the data. Finally, the participants were asked to reflect upon their behaviour within a time

period of the past month, to reflect the suggestion made by Solberg and Olweus (2003).

3.4.2 Self versus others'-reports

A major methodological variation across the research literature investigating reactive and proactive aggression and bullying is who is asked to complete the behavioural measure; the individual whose behaviour is under investigation (self-reported) or a person commenting on the behaviour of another (other-reported). Across the research included in this review 42 of the studies employed a self-report method with the other 18 employing others-reports. The following section will review the implications of employing a self versus others-report methodology.

Self-report methods

Self-report methods are by far the most common way to collect data regarding prevalence rates within samples of children and adolescents.

Self-report measures require participants to reflect upon their own involvement in the behaviours of interest to the researcher. This method is particularly useful for identifying the prevalence of more covert behaviours and for identifying an individual's underlying motivation. This can be either in the form of asking open-ended questions or asking participants to reflect upon their involvement in a list of discrete behaviours or scenarios (e.g. Bauman 2010;

Calvete et al. 2010; Didden et al. 2009; Kert et al. 2010; Li, 2008; Marsh et al. 2010; Pepler et al. 2006; Scheithauer et al. 2006; Wade and Beran 2011). By asking participants to indicate their involvement in a list of behaviours participants can then be categorised into different participant roles, such as perpetrators (those who behave negatively towards others), victims (those who are targets of such behaviours), perpetrator-victims (those who both perpetrate and are the victims of negative interpersonal behaviours), or are not involved (Carbon-Lopez et al. 2010; Cole, Cornell and Sheras 2006; Jankauskiene et al. 2008; Kelleher et al. 2008). A potential confound in utilising self-reports is that of socially desirable responding. This will now be discussed.

Self-reports and socially desirable responding

A confounding effect that may be problematic for research investigating any socially undesirable behaviour such as proactive and reactive aggression and bullying is that of biased responding (Brown, Birch and Hancheria 2005).

Response bias has been shown to affect the reliability of data within studies asking participants to reflect upon their behaviour or performance (Dalton and Ortegren 2011; Li 2008). This is especially an issue in this area of research as participants are being asked to report upon their use of socially undesirable behaviours.

Children are likely to have the perception that the school that they attend does not permit the use of behaviour that can harm others. As such the use of the word, 'bullying' may, as demonstrated within the previous section, bias participants' responding to questions regarding their involvement in such behaviours (Frisen et

al. 2008; Green et al. 2013; Kert et al. 2010; Vaillancourt et al. 2008). Biased responding may also be the effect of cognitive dissonance, whereby the participants disassociate their behaviours with the term 'bully' or 'bullying' which carry such negative connotations (Bosworth et al. 1999). Therefore, participants may not answer honestly in order to maintain a positive self-perception and/or to show themselves in a favourable light to the researchers.

There are methods that aim to reduce the impact of socially desirable responding upon data. Firstly, for questionnaire-based surveys, social desirability scales such as the Children's Social Desirability Scale (Crandall, Crandall and Katkovsky 1991) have been employed to identify response biases (Dalton and Ortegren 2011; Tilgner et al. 2004). Secondly, marker variables within test scales can be included to identify socially desirable responding to avoid the addition of a separate scale (Vigil-Colet et al. 2012). Thirdly, when utilising a self-report methodology, additional data could be collected regarding the prevalence of overt forms of bullying (such as from teachers/parents/peers) to support the information provided by participants. The following section will discuss these three methods, assessing their strengths and limitations.

The purpose of including a social desirability scale is to identify whether participants generally respond in socially desirable ways (therefore inaccurately), and if so to be able to correct or account for the responses to the behavioural test scales being utilised. A potential strength of including a social desirability scale is

that those who show a highly socially desirable responding can be removed; thus removing those who are likely to be answering in a manner which is not reflective of their true behaviour, and thus confounding the reliability of the data set.

However, limitations of this approach are that, being affected by the effect of social desirability may be an attribute associated with the demographic group the study wants to investigate, and therefore removing this group who score highly on social desirability scales may be removing the very group of individuals of interest to the study (Anguiana-Carraso, Vigil-colet and Ferrnando 2013). For example on scales for studies aiming to measure the personality trait of conscientiousness, conscientious individuals are likely to respond in a socially desirable manner and therefore are likely to score highly on the measure of social desirability and as a result be removed from the sample (Smith and Elligson 2002). Similarly, subgroups of aggressive children and adolescents have been shown to display good social understanding (Renouf et al. 2010) and therefore may indicate high socially desirable responding and be removed from the data; despite the fact that they may not respond in such a way within the test scale and be the very group of interest to the research.

A further limitation is that changes to participants' scores on the behavioural measures based on social desirability scores may reduce the validity of the test measures of the attributes or behaviours under investigation. For example a study by Christiansen et al. (1994) compared participant's raw and corrected (after correcting for socially desirable responding) ranked scores on a measure of

personality traits. They found that after correcting participant's scores, the order of ranked scores changed for 85% of their participants. Therefore, there is the danger if correcting scores, that this may significantly compromise the validity of the scale employed. There are further inherent limitations of changing participants' data/inclusion based upon the responses to generic social desirability scales. The effectiveness and the reliability of social desirability scales are dependent upon attributes of the social desirability scales themselves (Vigil-Colet et al. 2012). Specifically, within the area of adolescent and adult aggression, those who display high scores on measures of social desirability are likely to be those who do not utilise such behaviours, therefore inflating their scores will present a misrepresentation of the use of such behaviours within a participant sample (Vigil-Colet et al. 2012). Finally, using generic social desirability scales may not be reflective of participant's perception of the social acceptance of the specific area of research interest (Leite and Cooper 2010). For example studies that employ a generic social desirability scale assume that participants will be influenced by social desirability within their test scales to a similar extent as the social desirability scale; which is not necessarily going to be the case (Leite and Cooper 2010). Furthermore, research suggests that those who engage in aggressive behaviours are likely to belong to peer groups who endorse and use such behaviours. Therefore they are less likely to see such behaviours as socially unacceptable (Dijkstra et al. 2008; Henry et al. 2004; Huitsing 2010; Jones, Manstead and Livingstone 2011; Perkins, Craig and Perkins 2011; Sentse et al. 2007), and therefore are less likely to be affected by socially desirable responding. This

suggests that social desirability scales are not necessarily a desirable methodological inclusion in this area of research.

Careful consideration should therefore be taken when deciding to include and correcting/removing data based on the findings of social desirability scales. Given the evidence previously examined and specifically considering the research area of child and adolescent interpersonal aggression, the adoption of an additional social desirability scale may not be beneficial as altering the data due to the findings of such scales may negatively impact upon the reliability of the data collected. Instead, careful consideration of the items included within the behavioural scales employed to measure aggression should be taken to ensure that participants do not encounter language which may promote bias responding (Krumpal 2013). Therefore, for the research conducted and presented in Chapter 6, which investigated the prevalence of reactive and proactive aggression, and bullying, a social desirability scale was not included. Rather, terminology relating specifically to 'bullying' was removed/avoided in order to reduce the negative connotations and subsequent bias responding associated with the use of this terminology (Krumpal 2013).

Summary

Self-report methods provide participants with the opportunity to indicate their own use of behaviour. For the purpose of the current research this is advantageous as the distinction between the behaviours being measured (reactive

aggression and forms of proactive aggression) is based upon an individuals' underlying motivation for using such behaviour (Arsenio, Adam and Gold 2009; Crick and Dodge 1994; Dodge and Coie 1987; Kempes et al. 2010). However, due to the undesirable nature of the behaviours being measured by the current research there is the possibility that participants may bias their responses to show themselves in a more socially desirable light and thus reduce the reliability of the data collected. Although, social desirability scales have been developed to identify bias responding, altering the data to reflect socially desirable responding has been shown to further effect the reliability of the data set as a whole (e.g. Christiansen et al. 1994). An alternative method for reducing the likelihood of bias responding is to pay closer attention of the wording of the questions the participants are being asked to respond to. Avoiding language that may elicit negative connotation may be a more effective way to reduce bias responding without needing to administer an additional social desirability scale and alter the data from the behavioural scale. However, an alternate method by which to reduce the likelihood of bias responding is to ask peers or teachers to complete questionnaires about others' behaviour.

Others' reports

Others' report methods require participants to reflect upon the behaviours of others. Participants (peers, parents and teachers) are asked to nominate individuals who display a set of behaviours, or to specify the degree to which an individual's behaviour fits a description (for example, 'hits other children when angry'). As can be seen in Tables 3 and 4 the majority of data adopting others'

reports collect this data from peers and teachers, with the majority collecting data from parents. Table 5 highlights the prevalence range of data collected from peers, teachers and parents when measuring bullying, reactive and proactive aggression. It should be noted that a number of the studies presented in Table 4 collected data from different respondents (e.g. from teachers and peers) and did not differentiate the responses from each. As such Table 5 displays the findings of studies where the responses from each group of respondents were differentiated.

Table 5. The range of prevalence rates collected from different respondents.

	All	Peers	Parents	Teachers
Bullying-Victim	1.8-22%	5.4%	67.8%	38.8%
Bullying-Bully	1-25%.	7.4-20.6%	1%	6.6%
Reactive Aggression	5.9-28.3%	-	-	5-5.9%
Proactive Aggression	3.5-67.5%	-	-	3.5-15%

In general, others' report methods produce a narrower estimate of reported prevalence (with the exception of the one study reporting bullying perpetration at 93%, see Table 2) compared to self-report methods. A discussion of the strengths and limitations of this method will now be presented. This will involve a review of the accuracy of others in their ability to report the full range of behaviours used by perpetrators and experienced by victims of reactive and proactive aggression and

bullying. Where there are strengths and limitations specific to a group (teachers, parents or peers), these will be discussed throughout.

The adoption of others' report methods for collecting prevalence data have a number of advantages including the reduction of response bias, increased reliability due to the data being collected from numerous sources and the ability to conduct longitudinal studies with the data collected. Firstly, others' reported involvement in reactive and proactive aggression and bullying has an advantage over self-report methods in that it reduces the potential of biased responding (to a degree) as participants are indication the behaviour of others, rather than themselves. As such are less likely to be influenced by the effect of social desirability.

A second potential advantage of others' nominations in identifying those involved in negative behaviours is that those who are nominated as being involved are identified by name. This is advantageous as by nominating named individuals, this allows for longitudinal studies to be conducted as researchers are able to see if the same group of individuals are recurrently named as victims or perpetrators of behaviour over numerous data collection phases (Baly, Cornell and Lovegrove 2014; Kim, Boyce, Koh and Leventhal 2009). Secondly, nominated individuals *could* be approached to provide the necessary support they may need (Phillips and Cornell 2012). However, by passing on the details of named individuals leads to an ethical and methodological dilemma. If the names of children who are

nominated as victims or bullies are to be passed on to school personnel, the data is then not confidential, which in turn may affect children's' responses and thus the reliability of the data. Alternatively, only an overview of the percentage of the participant sample involved in the negative behaviours measured could be passed on to the class teacher. This way the data remain confidential, but the class teacher is still aware whether or not bullying is an issue within their classroom.

Although holding a number of advantages over self-report methods, there are also a number of disadvantages of the use of others' reports in general and in relation to the aims of the current thesis. These include the accuracy of others being able to identify the underlying motivation and distinction between reactive and proactive behaviours and the position of others to observe the behaviours being measured (Farmer et al. 2003; Hamm et al. 2011; Hardy, Bukowski and Sippola 2002; Phillips and Cornell 2012; Schuster 2007). These will now be discussed. Although it has been suggested that peer nomination methods increase the reliability of data due to multiple respondents it is important to consider the dynamics of the group that the data is being collected from. Peer nomination may be an accurate way to collect prevalence rates of negative behaviour when collected from school classes with well-established group dynamics (Schuster 2007). Such dynamics may not well established during the first year after a school transition as children/adolescents are still getting to know one another (Farmer et al. 2003; Hamm et al. 2011; Hardy, Bukowski and Sippola 2002). Consequently,

peer/teacher nominations may not be the most reliable way to ascertain the prevalence rates within samples whereby group dynamics are not well established.

Questions have also been raised about the reliability of data collected from others due to the questionable ability of others to accurately identify those who display reactive and proactive aggression and bullying. Phillips and Cornell (2012) investigated the reliability of the peer nomination method by conducting interviews with those who had been nominated as victims of bullying by their peers, to establish whether they were actually the victims of bullying. Their findings suggest that the greater the number of nominations a participant received from their peers, the more likely it was that the participant was actually the victim of bullying. For example, for those individuals who were nominated as victims by only two peers, the subsequent interviews revealed that only 43% actually reported being the victims of bullying themselves. However, in comparison 90% of those who received nine or more nominations reported being bullied to interviewers. It therefore seems important to consider the number of nominations an individual receives when interpreting the findings of research utilising a peer nomination method. What this suggests in practice for schools adopting this method to identify those involved in bullying, is that the more nominations a child receives the more likely they are to be being bullied. However, due to the lack of research investigating the association between number of nominations and involvement in bullying no guidelines have been produced to suggest how many nominations an individual should receive to categorise them as a bully or victim. Although this research focused on bullying

behaviours, the implications are also applicable for the measurement of the prevalence of more generalised forms of proactive and reactive aggression as others are less likely to be able to accurately comment on the underlying motivation for others' use of behaviour.

The previously mentioned disparity between other-reported and self-reported involvement is likely due the fact that the perpetrators' motivation for displaying such behaviour is not always known to the respondent (e.g. Raine et al. 2006). Nor can others necessarily understand how the 'victim' perceives the situation (Schuster 2007); an issue when measuring bullying behaviour. For example a proportion of incidents where others may be perceived to be acting aggressively towards others may in fact be perceived as playful from the perspective of the perpetrator and/or victim. Furthermore, other-reported methods are limited to observable behaviours; for example, fellow classmates and/or teachers may not be aware that an individual is involved in cyber or indirect forms of these behaviours as either a victim or perpetrator (e.g. Xie et al. 2002); or may not know the extent to which they experience these behaviours. This limitation is particularly apparent when identifying premeditated behaviours within adolescent samples. During adolescence, the frequency of the use of physical and overt displays of proactive aggression and bullying behaviour declines and the use of indirect behaviours increases; becoming more prevalent than direct behaviours within samples of both males and females (e.g. Card et al. 2008; Kert et al. 2010; Tremblay et al. 2005). Therefore, both peers and teachers are less likely to

observe acts of aggression; although peers are likely to have a greater insight into what is happening in the peer group that they belong to compared to teachers (e.g. Raine et al. 2006). This is reflected in research suggesting that teachers are more accurate in detecting bullying behaviours within primary school samples (where bullying behaviours are more visible) than within high school samples (e.g. Leff et al. 1999). To support the assertion that teachers are likely to witness acts of proactive aggression less frequently than children and adolescent research has been conducted to investigate the correlation between students who are nominated as victims by teachers compared to those nominated by peers (Nabuzoka 2003; Pakaslahti and Keltikanngas-Jarvien 2000); identifying a low correlation. When asked to nominate those who are bullied and those who bully others, teachers tend to nominate a significantly greater number of bullies across their samples compared to victims. Conversely, peers tend to nominate a greater number of victims compared to bullies (Ristkari et al. 2009; Weinke Tortura et al. 2009). This may reflect the differing levels of contact peers and teachers have with those involved in bullying, as well as differing interpretations of observed behaviour. Teachers may base their nominations on visible, overt behaviour that they witness during teaching time or reports they have had from their students. Whereas children and adolescents may be basing their nominations on more intimate knowledge of their peers' situations, due to greater contact time and higher levels of peer-to-peer self-disclosure of their experiences (Karver 2006; Weinke Tortura et al. 2009). This could be a particular issue when investigating reactive compared to proactive aggression as the two types of behaviour are defined and

differentiated by their underlying motivation for using this behaviour. Others may not be in a position to accurately report whether the behaviour of another person was emotionally or goal driven (e.g. Little et al 2003; Raine et al. 2006). The findings of prevalence rates obtained from others' nominations should therefore be interpreted in the light that those completing the nominations may not have observed a significant amount of the behaviour that is being perpetrated. Therefore the prevalence figures obtained via this method of data collection are a more of a reflection of others' perceptions rather than the intrinsic motivations of the individual.

As with self-report methods, the reliability of data collected from others' reports centres on the participants' truthfulness in nominating those who display reactive forms of aggression, proactive forms of aggression and bullies. Adolescence is a time characterised by a greater affinity to the peer group (Tanti et al. 2011; Trentacosta and Fine 2010); as such, adolescents may be less willing to name peers who display these behaviours for want of avoiding the risk of being labelled a 'snitch' (Oliver and Candappa 2007) which in turn may jeopardise their peer group membership. Conversely, adolescents may consider these nominations as a means by which to target those whom they dislike by labelling them as a bully; therefore they may base their nomination on dislike or past conflict rather than bullying criteria (Menesini and Camodeca 2008; Peets and Kikas 2006). It has been argued therefore that peer nominations may be more of a reflection of social

reputation of the individuals who are nominated, rather than an accurate measure of who perpetrates or is the victim of bullying (e.g. Juvonen et al. 2001).

The majority of the review of others reports detailed above is based upon research adopting peer or teacher reports. This is due in part to the fact that, as can be seen in Tables 3 and 4., the majority of research has recruited peers and/or teachers. In the context of the current thesis, parent reports were not considered appropriate. Of the few studies investigating cross-informant agreement, correlations between teacher and parents reports tend to be low (less than .38; Hudziak et al. 2003). Multiple reasons have been suggested as to why this may be the case. However, the main limitation of parent reports in the context of the aims of the current thesis is that parents rarely witness their child interacting with others at school. Rather they are likely to witness their behaviour with family members of different ages, which may not be an accurate reflection of how they interact with others of their own age (Collishaw et al Goodman 2009).

Summary

Although, others' nominations may reduce the effect of biased responding, this method carries a number of limitations applicable to the aims of the current thesis that may impact upon the reliability of the data collected. The main limitation of peer/teacher reports for the purpose of collecting prevalence data for the empirical research presented later in the thesis is the fact that an individual may not know the underlying motivation behind another's use of harmful interpersonal

behaviour and it is this distinction that is integral to differentiating reactive and proactive aggression (e.g. Raine et al. 2006). As such the empirical research presented in Chapters 5-8 adopted self-report methods.

3.5 Conclusion

The current review has highlighted the impact of differing methodologies employed across the research literature upon the reliability and comparability of the reported prevalence of reactive and proactive aggression and bullying. If researchers are to achieve a clearer picture of the nature and prevalence of such behaviours across different participant samples, efforts need to be made to move towards a standardised measure of these types of behaviours. As such the current review highlighted that research findings should be interpreted based on a closer inspection of what the data collection materials actually have the propensity to measure. The review also served as a methodological blueprint to inform the construction of the methodology employed for the four empirical studies presented in the current thesis (Chapters 5-8); this methodology is presented in the next chapter (Chapter 4).

In addition to informing the methodology employed for the empirical research included in the current thesis, the review highlighted the lack of a shared understanding of what constitutes bullying and how it is differentiated from general forms of proactive aggression between children/adolescents and adults (school personnel and researchers) (Frisén et al. 2008; Rodkin and Berger 2008;

Vaillancourt et al. 2008). It is essential that future research investigates children and adolescents' understanding and definition of bullying, as such discrepancies in understanding may lead to under or over reporting of bullying relationships. Furthermore, this definition is also important in differentiating bullying from more generalised forms of proactive and reactive aggression. As detailed in Chapter 2, the developmental risk factors for the use of reactive and proactive aggression are different. As such it is important that children are aware of what differentiates these types of behaviours in order for them to be accurately reported to school personnel. By doing this, those who utilise reactive and proactive forms of negative behaviour can receive appropriate help in addressing their behaviour and accurate resources can be allocated in schools to address the type of behaviour being utilised (e.g. Naylor et al. 2006; Grigg 2010). This is where the empirical contribution of the current thesis will begin. Chapter 5 details a qualitative study investigating children's and adolescents' understanding and differentiation of terminology related to forms of aggression, violence and bullying.

4.0 General methodology

4.1 Introduction

The review presented in the previous chapter (Chapter 3), identified that both forms of reactive and proactive aggression are being utilised in schools around the world (Crapanzano, Frick and Terranova 2010; Fite, Colder and Pelham 2006; Mayberry and Espelage 2007; Stickle, Martin and Thomas 2012; Unever 2005), putting children and adolescents at the risk of suffering both short and long-term harm (e.g. Pan and Spittal 2013; Penning, Bhagwanjee and Govender 2010; Ttofi, Farrington and Lösel 2012). Chapter 3 also highlighted the impact of differing methodologies employed across the research literature upon the reliability and comparability of the reported prevalence of reactive and proactive aggression and bullying. Chapter 2 identified the need to differentiate reactive compared to proactive aggression as the two types of behaviour are known to have distinct developmental risk factors associated with them (e.g. Calvete and Orue 2012; Heckens et al. 2010; Hubbard, McAuliffe, Marrow and Romano 2010; Putman et al. 2010; van Honk et al. 2005). As such it is important that we have an accurate understanding of what behaviours are being used (reactive and/or proactive) in order to be able to construct intervention/prevention strategies in schools that will be effective in reducing these two types of behaviour.

The aim of this chapter is to present the overarching methodology that was employed to address the overarching aim of the thesis (to identify a behavioural typology of reactive and proactive aggression) by presenting the research

questions to be addressed by the primary research included in the thesis. The two research phases will be introduced and details of the epistemological position of the thesis will be presented.

4.2 Aims of the thesis

The primary aim of the thesis was to identify and explore a behavioural typology of reactive and proactive aggression in a sample of 9-14 year olds. In addition to this the current thesis also aims to gain an understanding of children's and adolescent's social constructions of negative interpersonal behaviours and the language used to describe and differentiate them. To do this a mixed methods approach was taken to answer the following research questions-

1. How do children define terminology relating to the use of types of aggression, violence and bullying?
2. Do children and adolescents who engage in reactive and proactive aggression form distinct groups based on the type and frequency of behaviour they display?
3. Is membership in each of the behavioural groups associated with involvement in bullying?
4. Are there significant differences in the self-reported ability to empathise and the perception of the social acceptance of reactive and proactive aggression between the behavioural groups identified?

5. What are children's and adolescent's social representations regarding why people become involved in negative interpersonal interactions? Do these perceptions differ between the behavioural groups?

To answer the research questions a two-phased approach was taken. Phase 1, presented in Chapter 5, involved collecting qualitative data to address the first research question. The methodology employed for Phase 1 can be found in Chapter 5, Section 5.2. Phase 2, which involved collecting data via a questionnaire aimed to answer questions 2-5. Chapter 6, aimed to answer the second and third research questions and includes details of the overarching methodology for Phase 2 (Section 6.3). Chapter 7, aimed to answer the fourth research question, with the details of the scales administered to collect the data to address the fourth and fifth research questions reported in Section 7.3. Finally, Chapter 8 aimed to answer the fifth research question. Methodology specific to addressing this research question are detailed in Section 8.3

4.3 Overarching research design

4.3.1 Mixed methodology

The current thesis will adopt a two phased approach to data collection, employing both quantitative and qualitative methods. An overview of the methodology is provided in this section with more detailed information provided in subsequent chapters (the reader will be signposted to these chapters throughout).

Mixed Methodology is broadly defined as, 'research and enquiry that includes multiple and mixed research projects that facilitate and reside at the intersections of multiple methods, purposes, kinds of data and levels of analysis' (Hesse-Biber and Johnson 2012). A Mixed Methods analysis aims to synthesise both quantitative and qualitative data to gain a greater insight into an area of interest; insights that would not be accessible through collecting one type of data alone. Such research designs have been identified as being particularly useful for researchers interested in typology development (Teddlie and Tashakkori 2009) and their adoption has gained growing momentum within the area of child and adolescent violence and aggression (e.g. Fenaughty and Harre 2013; Fung 2012; Law, Shapka, Domene and Gagne 2012; O'Brien 2011; Thornberg, Rosenqvist and Johansson 2012). As such this met the needs of the thesis.

The current research adopted a data-driven approach to identifying a behavioural typology and associated socio-cognitive characteristics. The variables included have been influenced by the themes that emerged from the data collected in Phase 1 (Chapter 5) and the findings of the literature reviews presented in Chapters 2 and 3. The aims of the current research lend themselves to a Mixed Methods approach as quantitative methodologies will be required for the identification of behavioural patterns of responses across samples (Fields 2006; Silverman 2005) and qualitative methods will be required for the exploration of *why* and *how* questions relating to the participants understanding of why individuals utilise aggressive behaviours (Castro et al 2010).

In order to achieve methodological eclecticism (one of the core characteristics of mixed methodology research, Teddlie and Tashakkori 2012), the research in this thesis adopted an overarching exploratory iterative sequential design (a design typology constructed by Creswell et al. 2003). A sequential mixed design occurs 'when qualitative and quantitative strands of a study occur in chronological order' (Teddlie and Tashakkori 2009: 21), with traditional sequential designs consisting of two phases of data analysis. However, more complex designs consisting of more than two phases are known as iterative sequential designs (Teddlie and Tashakkori 2009). The current thesis adopted an initial qualitative methodology to explore the first and last research questions, exploring how children and adolescents define and understand terminology relating to interpersonal violence, aggression and bullying (Phase 1; Chapter 5). Qualitative methods were also employed and reported in Chapter 8, as part of Phase 2 to explore children and adolescents social construction of why people are 'picked on' by others. Phase 2 (Chapter 6) employed a quantitative method to identify a behavioural typology of the use of reactive and proactive aggression in a sample of children and adolescents aged 9-14 years old. In order to further validate this typology, themes, which emerged from Phase 1 (Chapter 5), influenced the selection of the socio-cognitive measures (empathy and perception of the social acceptance of reactive and proactive aggression) employed to conduct a further quantitative investigation presented in Chapter 7. The findings of these empirical studies were then drawn together in Chapter 9 to discuss the implications of the findings upon our understanding of the use of reactive and proactive aggression.

4.3.1 Rationale for employing a qualitative methodology

A qualitative methodology was employed for Phase 1 (Chapter 5) and as part of Phase 2 (Chapter 8) to answer the following research questions, 'How do children define terminology relating to the use of aggression, violence and bullying?'; 'What attributions do children make regarding why people become involved in negative interpersonal interactions? Do these perceptions differ between the behavioural groups? Qualitative methods allow for the exploration of participants beliefs and understanding about an area of interest (Castro et al. 2010). Utilising qualitative methods also allows the researcher to 'ask whether there is some limitation or inherent problem in the conceptual configuration of the field and to ask how else the problem might be understood' (Ellwood and Davis 2010: 85). These insights may not be accessible within quantitative methods that only allow for the exploration of predefined variables derived from existing research. A qualitative exploration of child and adolescent understanding of why children are involved in negative interactions with their peers allows the researcher to identify the factors which are important from the perspective of those who experience and witness them. This aspect is particularly important when investigating the use of interpersonal behaviours as from a socio-ecological perspective (as was reviewed in Chapter 2) as behaviour is shaped by both individual and contextual factors (Espelage and Swearer 2010). Therefore, it is important to investigate factors that may be specific to the context within which the behaviour is displayed.

As was demonstrated in Chapter 3 qualitative methods have allowed researchers to identify that child and adolescent and adult samples have been shown to hold an inconsistent understanding of what defines and differentiates a bullying relationship compared to non-repeated forms of interpersonal aggression and violence (e.g. Frisé, Holmqvist and Oscarsson 2008; Maunder, Harrop, and Tattersall 2010; Monks and Smith 2006; Rodkin and Berger 2008; Smith et al. 2002; Vaillancourt et al. 2008). The implications of differing understanding of the terminology used within research investigating aggressive behaviours were highlighted in Chapter 3, Section 3.4.1.. To reiterate, an inconsistent understanding can lead to participants reporting behaviours that are not defined as bullying by the researcher. As such Chapter (Chapter 5) employed a qualitative methodology to explore participants understanding of the terminology which will be used within quantitative data collection materials (needed for Phase 2). This was valuable for identifying whether a shared understanding is held between the researcher and participants regarding the definitions of terminology relating to the language that could have been used in subsequent data collection materials (relating to violence, aggression and bullying). If a shared understanding was not held, further details of the definitions of terms included in the questionnaire could have been included if necessary, or certain terms could have been omitted. Further to this, the responses to qualitative questioning as Elwood and Davis (2010) suggest, may also identify any inherent limitations to the way in which researchers conceptualise and define reactive and proactive aggression. Thus this line of enquiry served to

guide the operationalisation and measurement of the key constructs of the thesis. In order for researchers to gain a better understanding of the contributing factors or mechanisms that underlie the use of negative behaviours towards peers, it was important to understand how those facing such interactions construct the phenomena as it is fundamentally this group who will have to change their behaviour (Crick and Dodge 1994). Providing the opportunity for children and adolescents to explain why they believed others would engage in negative peer relationships allowed for the investigation and identification of social representations which may be facilitating or inhibiting the use of such behaviours. This allowed the researcher to go further than solely identifying the prevalence of the use of such behaviours, which does not suggest how or why the behaviour may have manifested, to then be in a position to suggest how this negative behaviour may be changed.

For both qualitative studies, Thematic Analysis (method detailed in Section 5.2.3) was employed to analyse the data and identify how children and adolescents construct the phenomena under investigation. This method enables the researcher to identify shared themes across the data and was considered the most appropriate method to investigate the research aims as Thematic Analysis allows for theoretical flexibility regarding the level of detail and depth at which the data is analysed (Braun and Clarke 2006). The alternate analytic methods of Grounded Theory or Interpretive Phenomenological Analysis were rejected based upon their

theoretical commitments, which were not appropriate for meeting the aims of the current research study.

4.3.1 Rationale for quantitative analysis

Quantitative methods are suited to studies which aim to test specific hypotheses and rely on the selection of variables known to exist, but whose patterns of manifestation are currently unclear (Castro et al 2012). As detailed within Chapter 2 there was evidence to support the existence of two developmentally distinct types of negative behaviour (reactive and proactive). However, what was unclear from the research literature due to few studies investigating both reactive and proactive aggression were the patterns of behavioural manifestations of the use of both of these types of behaviour (Crapanzano, Mayberry and Espelage 2007; Fung, Raine and Gao 2009; Raine et al. 2006) and fewer still that have investigated how bullying fitted within these typologies. Therefore, a deductive approach, whereby predefined variables are explored, was appropriate and necessary to investigate the prevalence and patterns of these types of behaviours.

An advantage of quantitative methods in relation to the aims of the current thesis is that they facilitate the accurate operationalisation of variables, allow for specific hypothesis testing, and have the capacity to test the strength of associations and differences between variables (Castro et al. 2010), which is important for identifying and validating typologies. They also allow the researcher

to collect large sets of data, which can be subjected to statistical analysis through which models of behavioural typologies can be identified and reliably generalised to other populations (Field 2006; Silverman 2005). A further advantage is that the researcher can collect data via pre-constructed scales that have been tested for validity and reliability and can be compared to the findings of other studies that have utilised the same scale.

Quantitative methods were employed to investigate research questions two, three and four. For the second and third research questions, data were collected via two different scales employed to measure the prevalence of reactive and proactive aggression (The Reactive-Proactive Aggression Questionnaire, Raine et al. 2006) and a further scale (comprised of three Individual scales) to measure the prevalence of reported prevalence of bullying (Mynard and Joseph 2000: Peer Victimization and Bullying scale; see Chapter 6 section 6.3.3. for further details of these scales). K-means Cluster analysis was conducted to investigate the behavioural patterns of the use of reactive and proactive aggression within the sample. This method was also deemed appropriate because other studies investigating child and adolescents' use of reactive and proactive aggression have also conducted cluster analysis as a method of grouping participants, as such making the results of the current research comparable to those which have been conducted previously (Stickle et al. 2012; Crapanzano et al. 2010; Mayberry and Espelage 2007). Behavioural and demographic differences were then explored between the groups (see Chapter 6, Section 6.4.3.). A quantitative method was

also employed to investigate differences in-group scores between the behavioural groups identified on a measure of empathy (The Basic Empathy Scale; Joliffe and Farrington 2006) and a measure investigating acceptance of reactive and proactive aggression (A modified version of The Reactive-Proactive Aggression Questionnaire; Raine et al. 2006) (details can be found in Chapter 7, Section 7.3.3.).

4.4 Epistemological position of the thesis

Epistemology is the philosophy of knowledge and is concerned with the way in which researchers try to access knowledge about the world and what inferences can be made from data (Nairn 2012). As such it is integral that the appropriate methodology is adopted to reflect the researcher's epistemological position. Creswell and Plano Clark (2007) highlight the importance of a researcher's epistemological position within the design process of mixed methods research: 'Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of data collection and analysis' (p.5). Consequently, both the methods chosen and epistemological position must be aligned with one another. The following section will discuss the epistemological position of the current thesis and methodology chosen as a consequence.

As detailed the thesis consists of two research phases that employed a combination of both quantitative and qualitative methodologies in order to gain a

greater understanding of children's and adolescents' use of reactive and proactive aggression. However, using a combination of inductive qualitative and deductive quantitative methodologies poses a dilemma in terms of the epistemological position of the thesis; with interpretivist and positivist methodologies lending themselves to conflicting epistemological positions (McEvoy and Richards 2006). As such the thesis lends itself to a theoretical position that is underpinned by the epistemological assumptions of Critical Realism. Unlike a purely quantitative study, underpinned by a positivist paradigm (which aims to find generalisable laws or patterns), or a purely qualitative study, underpinned by an interpretivist paradigm (which aims to 'identify the lived experience or beliefs of social actors'; McEvoy and Richards 2006: 69), a study employing a Critical Realist approach aims to, 'develop deeper levels of explanation and understanding' which are not constrained by the constrictions of either one of the previously mentioned paradigms (McEvoy & Richards, 2006: 69). A Critical Realist position asserts that human behaviour and cognition, 'arise due to an interaction between social structures, mechanisms and human agency' (McEvoy and Richards 2006: 70). That is, social structures influence behaviour, but ultimately individuals have the agency to make decisions based upon their own individual experiences. Critical Realists are interested in not only the ontology of an event (the measurement of what 'exists' e.g. measurable quantities of an observable event), but of equal importance, the mechanisms that gave rise to that event occurring in the first place. From an empirical perspective, Critical Realists investigate this interaction between observable behaviour and the underlying social and individual mechanisms through a process of retrodution

(McEvoy and Richards 2006). Retroduction is the study of the underlying factors that may have caused an event or pattern to occur; therefore studying the observable event and an exploration of the mechanisms that gave rise to the event occurring. By employing a two phased mixed methodological approach the thesis engages in the process of retroduction by employing qualitative methods to understand children and adolescents understanding of terminology relating to different types of aggression, violence and bullying (as was done in Phase 1, Chapter 5); the findings of which, in addition to the literature presented in Chapter 2, provided a direction for the selection of socio-cognitive variables by which to validate the behavioural typology of the use of reactive aggression and proactive violence. Quantitative methods were then employed to investigate prevalence and identify a behavioural typology of the use of reactive and proactive aggression in a sample of 9-14 year olds (a measurable subset of behaviours which are known to exist; Phase 2). This was followed by employing quantitative methods to further explore and validate the behavioural typology by exploring differences in group scores on measures of empathy and perceived social acceptance of reactive aggression and proactive violence. Finally, both a qualitative and quantitative approach was taken to investigating children's and adolescents' understanding of why they believe individuals participate in episodes whereby one or more children 'pick on' another. Therefore, the current research aimed to investigate both the prevalence of the observable behaviours of reactive and proactive aggression, but also explore the risk factors that promote the development of these negative behaviour repertoires.

4.5 Conclusion

Taking a critical realist perspective, the current thesis adopted a mixed methodological approach to investigate a behavioural typology of reactive and proactive aggression in a sample of 9-14 year olds. By conducting initial focus group interviews with 9-18 year olds, the research conducted as part of the current thesis identified factors that are important in promoting and inhibiting aggression from the perspective of those who are facing such behaviours from their peers. These factors, which included the ability to empathise and the perceived social acceptance of the use of reactive and proactive aggression were included in addition to the variables of age, gender to further validate the behavioural typology. In addition involvement in bullying was also included to explore further differences between the clusters.

5.0 An investigation of children's and adolescents' understanding of terms relating to aggression, bullying and violence

5.1 Introduction

As was identified within the Chapter 3, the prevalence rates of interpersonal aggression vary considerably across the research literature. It was also identified how methodological variation between studies investigating the use of these types of behaviours may account for the differences in prevalence observed beyond the actual differences in prevalence data collection sites. It was identified that what may be particularly problematic in terms of obtaining accurate prevalence figures is the discrepancy between children's and professionals' understanding of what bullying is characterised by, and how this is differentiated from other forms of negative behaviours. It was noted that few qualitative studies have investigated children's and adolescents' understanding of what constitutes bullying (none of which were conducted in the UK), and furthermore, none have investigated how children and adolescents differentiate the term bullying from other terms utilised to describe other negative interpersonal interactions (i.e. violence and aggression; terms which are used interchangeably across the research literature). The current chapter will describe the first phase of data collection reported in this thesis. This first phase had dual aims. Firstly, to identify how children and adolescents define terminology utilised across the research literature to describe acts of negative interpersonal interactions. This is important for the consideration of the language to utilise in subsequent data collection materials to ensure that the researcher and

participants hold a shared understanding of the behaviour which is being measured and that certain terms do not elicit bias cognitions leading to inaccurate reporting. The second aim was to understand if and how children and adolescents differentiate terminology utilised to describe negative interpersonal interactions; with the specific interest in identifying if and how they differentiate the term bullying to other forms of negative interaction.

There is general academic consensus regarding the definition of bullying; a specific subtype of aggressive behaviour defined as, 'intentional negative behaviour that... occurs with some repetitiveness and is directed against a person who has difficulty defending himself or herself' (Olweus, 2011: 151). This definition is also reflected in the legislative policies with the DfE (2011) defining bullying as, 'behaviour by an individual or group, repeated over time, that intentionally hurts another individual or group either physically or emotionally' (DfE, 2011: 4). It is notable however, that in the UK legislative definition the explicit documentation of the criteria of a power imbalance as alluded to in the definition by Olweus (2011) is not present. However, the repetitive nature of a set of behaviours enacted and perceived as harmful implies that the victim is not in a position of power over the perpetrator to be able to stop the behaviour continuing. Within the England and Wales governmental policy dictates that each school must construct and implement an anti-bullying policy (The Education and Inspections Act 2006 [89]: 1.b, 3, 5), reflecting the DfE definition of bullying (see above). This definition is used to inform the construction of anti-bullying policies within schools and so effects how educators inform pupils about what bullying involves. However, as

identified in Chapter 3, Section 3.4.1, research suggests that that children and adolescents may hold a less consistent understanding of the criteria of bullying to those researching the problem (Frisén, Holmqvist & Oscarsson., 2008; Maunder, Harrop & Tattersall., 2010; Monks & Smith, 2006; Rodkin & Berger, 2008; Smith et al., 2002; Vaillancourt et al., 2008). The issue which arises from these differing understandings is that if an inaccurate picture of the prevalence of the problem may be being reported within schools, this in turn will impact on the perceived severity of the problem and subsequent allocation of resources to tackle it (Maunder et al. 2010). As detailed in chapter 2, different resources and interventions are needed to tackle different types of interpersonal aggression when enacted due to different motivations (reactive compared to proactive) (e.g. Arsenio, Adams and Gold, 2009; Coccaro et al. 2007; Crick and Dodge 1994; Dolan 2010; Heckens Montoya, Terburg, Bos and van Honk 2012; Hinnant and El-Sheikh 2009; Horsley, de Castro and Van der Schoot 2010; Hubbard et al. 2001; Huesmann 1988; 1998; Kruesi et al. 2004; Lorber 2004; Linder, Werner and Lyle 2010; Putman et al. 2010; Ortiz and Raine, 2004; Scarpa, Tanaka and Haden 2008; Sterzer et al. 2005; van Honk et al. 2005).

5.1.1 Methodological implications of the language included in data collection materials

It was identified in Chapter 3 that the language used in data collection materials may influence the reported prevalence of bullying (Vaillancourt et al. 2008) due to the understanding of the criteria of bullying, the personal schemas of

those involved in bullying relationships (Carbon-Lopez et al. 2010; Rodkin and Berger 2008) and the perception of which behaviours are utilised in such relationships (Carbon-Lopez et al., 2010; Maunder et al. 2010). The research literature therefore supports that children and adolescents hold varied understandings of what constitutes bullying and the impact of including this term in data collection materials. However, a similar level of insight into children and adolescent's understanding of other terminology used to describe negative interpersonal interactions is missing from the research literature. Specifically, terms relating to 'violence' and 'aggression', which as detailed in Chapter 1 and 5 are utilised interchangeably across the research literature. These are important to address for the purpose of the current thesis as the thesis aims of to differentiate between different types of negative interpersonal behaviour. At present, it is unclear how they differentiate bullying from acts of negative interpersonal behaviour that do not conform to their understanding and criteria of bullying and the meaning that they attach to the language they may use to report it.

Despite the increased research attention focusing on bullying and its effects on those involved, to date there are few studies which have investigated how groups of young people within England construct their understanding of the term bullying (Maunder et al., 2011; Thornberg, 2010). Furthermore, no qualitative research has been conducted to investigate how children and adolescents differentiate their understanding of the term 'bullying' from their understanding of general other terminology relating to interpersonal violence and aggression. The first research phase of the thesis therefore adopted a qualitative approach to

investigate how children and adolescents construct and differentiate between terms relating to aggression, bullying and violence (which will cumulatively be referred to as negative peer behaviors or interactions). As detailed in the previous chapter (Chapter 4, Section 4.3.), adopting a qualitative, rather than quantitative method allows participants to express their understanding of negative peer interactions based upon their own perception and experiences rather than being restricted or influenced by the preconceived ideas of the researchers investigating the topic. To investigate this issue the following research questions were addressed:

1. How do children and adolescents between the ages of 11-18 years define terminology relating to forms of bullying, violence and aggression?
2. How do children and adolescents differentiate between the terms bullying, violence and aggression?

5.2 Methodology

5.2.1 Participants-

The first data collection phase of the thesis, recruited participants via an opportunity sample from three state funded suburban schools across Leicestershire. These included one primary (children recruited aged 11 years), one secondary (aged 11-14years) and one high school (aged 14-18 years) (see table 6).

Table 6. Demographic details of participants

School level	Males	Females	Total
Primary	6	18	24
Secondary	11	11	22
High	3	8	11
Total	20	37	57

5.2.2 Procedure

Once ethical approval had been obtained from Coventry University, the head teachers of three schools were contacted directly by the researcher in writing and volunteered to take part (see Appendix 1 for a copy of the ethics application). Consent was then gained from the parents (via an opt out procedure) after a letter was sent home with the participant information and consent forms (See Appendix 2) and the participants themselves. The children and adolescents were read the participant information sheet and were then asked to sign a consent form (See Appendix 3) if they were happy to take part. At each school participants were asked within their daily bulletin whether they would be willing to take part in the focus group interviews. They were informed that the interviews would involve small groups of students talking about the definitions of words relating to positive and negative peer relationships and would last up to 45 minutes. Each group consisted of members of the same school year group and in the case of the participants from the primary school, the same class. Teachers were asked to arrange mixed gender groups of 5-6 students who had expressed that they would like to take part in the

study. A structured interview schedule was followed by reading a list of words¹ relating to both negative (relating to bullying, violence and aggression) and positive peer relationships; positive words were included to counterbalance the negative affect which may be elicited through the discussion of the negative concepts. Each interview was concluded with asking the participants to define the term, 'friendship'.

In order to investigate shared understandings of terminology related to aggression, bullying and violence, focus group interviews were conducted. This interview method elicits a greater level of reflection by individuals upon their contributions compared to one to one interviews (Flowers et al., 2001; Wilkinson, 2003; both cited in Palmer, 2010). They also allow participants to build upon each others' contributions and construct a picture of the way in which understanding is formed and challenged across a group (Willig, 2001: 29). This is especially valuable when attempting to identify the shared understanding of a phenomenon as it highlights the aspects which are and are not shared across a group. After each word was read to the group, the participants were asked to discuss the term amongst the group and provide a definition of the word. The discussion process was unstructured and each member of the group who wished to contribute did so in no set order. The groups were not asked to provide a definitive definition, rather members of the group contributed and the others added to or questioned each other's' responses. Once all of the words had been discussed the participants were informed of the purpose of the study, provided with a written debrief for themselves

¹ Words read to participants: bullying, verbal bullying, physical bullying, psychological bullying, aggression, violence, victim, mutual, friendship.

(See Appendix 4) and their parents (See Appendix 5) and sent back to their class. Across the 12 groups, the interviews lasted between 10 and 38 minutes ($m = 14.83$ minutes). The interviews were recorded using an audio recorder and the data were transcribed verbatim.

5.2.3 *Data analysis*

Thematic Analysis (Braun and Clarke 2006) was utilised to analyse the data. This method enables the researcher to identify shared themes across the data set. This was considered the most appropriate method to investigate the research aims as Thematic Analysis allows for theoretical flexibility regarding the level of detail and depth at which the data is analysed. The alternate analytic methods of Grounded Theory (GT) or Interpretive Phenomenological Analysis (IPA) were rejected based upon their theoretical commitments which were not appropriate for meeting the aims of the current research study. The data were analysed by conducting an Inductive Thematic analysis following the coding framework outlined by Braun & Clarke (2006) and took a realist and semantic view of the data. The transcripts were read, reread and coded line by line by annotating the transcripts to identify themes within each line of data. Identification of similarities between the initial themes across the data were then identified, marked with a highlighter and organised into meaningful groups within a table. The transcripts were then read again, this time to identify data which supported or contrasted with the overarching themes. Supporting evidence (quotes from the data) was then added to the table

and the identification of subordinate themes within the overarching themes were identified.

5.3 Results

The analysis of the data firstly focused on children and adolescents' understanding and definitions of three main terms; 'bullying' (encompassing the different types), 'violence' and 'aggression'. Across the three school levels similar themes emerged regarding the participants understanding of the defining characteristics of the three terms (see Table 7 for a summary of the findings). Two central themes emerged from the data reflecting how the participants differentiated between the three terms. These central themes revealed that participants defined the terms by describing the behaviours utilised across the different types of negative peer interactions (theme 1) and their perception of the level of personal control individuals have over their behaviour (theme 2). Furthermore, themes also emerged from the data reflecting the participants' perception of those involved in negative interpersonal interactions which are important to consider for the construction of intervention and prevention strategies to reduce the use of negative interpersonal behaviours in schools.

5.3.1 Definitions of the terminology

Across the participant sample, participants from all three school levels identified similar characteristics to define and differentiate the terms relating to aggression, bullying and violence. Aggression was characterised by the feeling of anger with or without reactive behaviour as a consequence of the feeling of anger.

Violence, however was defined as a purposeful action enacted with the purpose of causing harm, rather than venting anger as was the case for aggression. Bullying was defined by as purposeful and repeated; sharing the characteristic of their definition of violence with the additional criteria of being repeated. What were not mentioned by any of the participants were the criteria of a power imbalance between perpetrator and victim. Below in Table 7. are examples of the definitions provided by participants across all three school levels.

Table 7. Summary of the definitions provided

Term	Defined as
Aggression	Primary school- 'When you've got angry and you're just taking it out on everybody else and losing control wildly' ' It's like losing your temper and shouting and stuff' 'When they've got anger problems or something and they can't help it because you just wind them up and it's not their fault, they just get really easily wound up'
	Secondary school- 'When you're angry with somebody you be aggressive towards them' ' Getting angry'
	High school- ' behaviour towards another person that is overly emotional' ' Angry' 'Taking things out on people'
Violence	Primary School- 'Violence is where you've do stuff and it's not because you're angry' ' when you get aggression you lose control whereas with violence you have control you're just doing it on purpose'
	Secondary school- 'Taking action' 'More serious than aggression' 'Being mean or hitting someone on purpose'
	High school-

	'targeting someone through what you say to them'
Bullying	Primary school- 'Where you do something to a person more than once like hitting them more than once or calling them names more than once' 'Hurting someone on purpose'
	Secondary school- 'Someone constantly hurting you or being horrible' 'Doing it over a number of days and times and being nasty to someone more than once' ' Several times on purpose'
	High school- ' Repeated acts of violence against one person, its usually a group against one person' ' It goes past the point of just playing about, it actually hurts someone and leaves marks' ' Violence can just be a one off because they have annoyed you, bullying is a repeated act almost for no reason on one person' ' Bullying is over a period of time whereas violence and aggression can be quick and change in a flash'

5.3.2 *Criteria by which the children and adolescents defined behaviour.*

Across the sample the perception that the same behaviours are utilised across the three types of negative peer interactions emerged (theme 1); that is both physical and verbal behaviors were perceived to be utilised. Further to this there was a shared negative view of the behaviours themselves (theme 1.1). What differentiated the three types of behaviours however was the perception of the level of control that the perpetrators of bullying, violence and aggression have over their behaviour (theme 2); which in turn mediated their perception of whether or not the perpetrator was accountable for their actions. There was a shared perception that behaviours enacted within bullying and violent interactions were controlled and

purposeful (theme 2.1). Whereas, a continuum of perceived control emerged relating the use of negative behaviours when feeling angry (aggression); ranging from the perception that these actions were controlled and purposeful through to uncontrolled actions (theme 2.3).

Within the talk, themes also emerged relating to the participants' understanding of socio-cognitive mechanisms which they used to control their behaviour and restrain themselves from acting out against others; specifically taking the perspective or empathising with others and the perception of those involved. A further theme which emerged from the data related to the perception of the victims of controlled behaviour as 'different' to the peer group (theme 3.2). Interestingly, within the discussions of the term 'victim', no sympathy was explicitly expressed towards this group. Each theme will now be presented in greater detail with examples of instances within the talk.

Theme 1: Heterogeneity of behaviours across different negative interaction types

A characteristic of the participants' definitions of the terms presented to them was a description of the behaviours utilised within the three types of negative interactions. Participants perceived that the same behaviours are utilised when responding to the three terms, violence, aggression and bullying; that is they perceived physical and verbal behaviors to be employed.

Across all three age groups participants defined aggression as the experience of anger, which can lead to verbal ('when you're getting angry and you just saying nasty things' [secondary school aged participant]), and physical expression ('you're too angry and you hit things and you can throw things' [primary school aged participant]); thus being perceived as being a reactive behavioural response to anger). Similarly, violence included the use of both verbal ('targeting someone through what you say to them' [high school aged participant]) and physical ('hitting', 'punching', 'smacking someone') behaviours which are intended to harm and 'will actually hurt someone' [secondary school aged participant]; thus being perceived as proactive. The term violence was also used within a number of participants' descriptions of the behavioral characteristics of bullying ('violence over and over again' [high school aged participant]), reflecting participants understanding of the behavioural intent of the perpetrators actions within bullying situations.

Theme 1.1. Negative perception of behaviours themselves

Participants also expressed a perception of the behaviours utilised across the three types of negative peer interaction. Across all three age groups bullying was perceived negatively, with none of the participants justifying the use of behaviours involved. Bullying was perceived as, 'horrid' [primary school aged participant], 'past the point of playing' [high school aged participant] and 'nasty' [secondary school aged participant]; therefore something which is unpleasant to be associated with. Similarly, these behaviors enacted within the context of

interactions defined as violent or aggressive were also perceived as being negative ('violence is where you actually do something that's bad and will hurt' [secondary school aged participant] 'you do many bad things because of your anger' [primary school aged participant]).

Theme 2: Control of behaviour

A theme which was represented across all three age groups within participants' definitions and differentiated between the terms relating to violence, aggression and bullying was the level of control they believed individuals have over their behaviour. The perception of control also influenced their subsequent perception of those involved in negative interactions.

Theme 2.1: Bullying and violence as controlled, targeted actions

Participants across all three age groups understood violence as the use of purposeful actions, or 'taking action' as one participant defined it. They suggested that, 'with violence you have control you're just doing it on purpose' [primary school aged participant]. Similarly, bullying was also seen as the use of purposeful actions, but was differentiated from violence by its repeated nature. Across all of the groups bullying was described as behaviours being enacted, 'several times on purpose' [primary school aged participant] and 'when someone does it continuously on purpose' [secondary school aged participant]; characterised by its repeated nature. The term violence was used to describe the purposeful intent of a negative action and bullying was used to describe the repetition of the purposeful

action. As one participant explained, bullying is, 'violence, over and over again' [high school aged participant].

Theme 2.2: Aggression as a reactive response to anger

A reoccurring theme across all three age groups was that aggression was understood across the participant sample as being when, 'you get really angry' [primary school aged participant] or 'other people getting angry' [high school aged participant]. The reasons provided as to why someone would behave in an aggressive manner included, 'defending yourself...[or] you could be protecting someone else' (reacting to a situation of threat) [secondary school aged participant], reacting to the cause of anger ('When you're angry with somebody you'd be aggressive towards them') [secondary school aged participant] or venting anger onto a non-specific target ('they just want to get their feelings out so they'll just pick on any random person they get their aggression out') [primary school aged participant]. Therefore, rather than being controlled and premeditated acts, aggression was defined as the experience of anger which could then lead to a reactive response. Thus the term aggression was explicitly differentiated from violence and bullying by the characteristic of it being an emotion driven reactive behaviour. The reactive nature of aggression was explicitly differentiated from purposeful acts of violence by one participant. They suggested that, 'violence is where you do stuff and it's not because you're angry. But when you're aggressive you don't mean the things that you're doing you just want to get rid of all of your feelings' [primary school aged participant]. Across the sample however, there were

mixed perceptions regarding an individual's ability to control their behaviour when angry. This differentiation ranged the perception that an individual's behavioural expression of anger is purposeful and enacted to display to others that they are angry (thus sharing the characteristic of intentionality expressed in the understanding of the term violence), through to a perceived lack of control over behaviour when angry. The perception that aggressive behaviours are utilised by individuals to signify to others that they are angry was expressed by a small number of participants. One participant suggested that people use, 'violence, like to show your aggression' [high school aged participant]. Although age related generalisations should not be made due to the small sample size and nature of qualitative research, it should be noted that only participants from the sample of 16-17 year olds expressed the perception that aggressive actions are purposefully enacted. Others perceived the expression of negative verbal and physical behaviours to be a mechanism through which to vent the feeling of anger, 'you just want to get rid of all of your feelings' [secondary school aged participant], 'because you were so angry that you just needed to take it out on someone' [primary school aged participant]. These participants suggested that the use of expressive behaviors relieve the feeling of anger. Other participants expressed the perception that certain individuals cannot control their expression of negative behaviours when angry. Therefore, these actions are an uncontrolled response to the feeling of anger (theme 2.3).

Theme 2.3: *A limited capacity to control anger*

A perception that certain individuals lack control over their behavioural expression of anger was shared by a number of participants (predominantly, but not exclusively those from the primary school sample). These participants suggested that, 'you've got angry and you're just taking it out on everyone else and losing control wildly', 'you just lose it, you just get all of your anger out and just start shouting and stuff [primary school aged participant]'. As one participant explained 'you're too angry and you hit things and you can throw things and you do many bad things because of your anger' [primary school aged participant]; suggesting the perception of a limited capacity for containing anger, beyond which control is lost.

A number of participants expressed the perception that some individuals suffer from internal traits or 'problems' which mitigate their ability to control their behaviour. An individual's 'temper' was suggested to be a factor; 'somebody will say something and you've got a bad temper which will make you angry' [secondary school aged participant], 'you lose your temper and when you lose your temper you do crazy stuff and like one time I lost my temper and started getting a knife out and all that'[primary school aged participant]. These participants attributed the blame for the reactive behaviours displayed to the internal trait of an individual's, 'temper'. Similarly, other participants suggested that aggressive individuals suffer from 'problems' which mitigate their personal responsibility for their actions; 'they've got anger problems or something and they can't help it... it's not their fault, they just get wound up really easily' [secondary school aged participant]. The idea of a 'problem'

or condition was also reflected in one primary school aged participant's explanation of her brother's negative behaviour, 'my brother's got ADHD...sometimes he goes on one and gets knives out and he's got problems like he is trying to hurt my other brothers and he's trying to hurt me'. Here the participants appear to be rationalising this behaviour by stating that her brother has a diagnosed condition, thus attributing the cause of this behaviour to the condition. Within these examples the participants are reflecting upon their own experiences and the experiences of close family members (therefore having knowledge of the symptoms of their condition). In attributing a mitigated level of control over behaviour the participants here appear to be justifying the use of negative and harmful behaviours by certain individuals, thus attributing a degree of acceptability for their behaviour when there is a perception of a lack or limited capacity to control their emotions.

Theme 3: Personal characteristics influence involvement

The characteristics of both the perpetrators and victims of negative peer interactions were discussed in relation to all three types of negative interactions. These related to a negative perception of those who deliberately tried to hurt others, but also a negative perception of the victims of deliberate attacks.

Theme 3.1. A negative perception of those displaying controlled behaviours

Across all three age groups individuals who were characterised as deliberately using negative behaviours towards others were described as, 'mean [and] unkind' [secondary school aged participant], 'jealous' [primary school aged participant] and someone that does not care about the victims feelings ('you don't

care about their feelings' [high school aged participant]), thus were not perceived in a positive light.

Theme 3.2. Victims of targeted attacks are identifiably different

Across the groups a perception was held that the victims of targeted attack of negative behaviours were in some way different from the majority of the peer group. Reasons provided as to why someone may be targeted included 'the way you look' [high school aged participant], 'you could be a disabled person' [primary school aged participant] and 'you could be bisexual' [secondary school aged participant]; therefore categorising victims as belonging to minority groups. Similarly, participants also suggested that the victim may have a perceived vulnerability 'the person that's bullying you knows what upsets you and makes you angry and does it purposely to annoy you' [secondary school aged participant]. The perception of the victims of purposeful negative peer interactions therefore was that they are identifiably different from the majority. It is important to note here that despite the negative perception of the behaviours utilised in negative peer interactions, no sympathy was explicitly expressed towards the victims of these targeted behaviours.

Theme 3.3. Considering the feelings of others to control behaviour

Across all three age groups participants drew upon the concept of empathy or perspective taking as a playing a role in the perpetration of both aggression and violence. There was the perception than an inhibitory mechanism for displaying negative behaviours towards others was to consider how the recipient of an attack

would feel. As one primary school girl stated, 'you might one day get really worked up and you've been hiding it in all the time *so you like don't hurt other people*' [primary school aged participant]. Here it appears that she is suggesting that the expression of anger can be controlled to an extent by considering the feelings of others. There was the perception that those who perpetrate purposeful behaviours have a lack of concern for the feelings of others. As one secondary school boy stated, 'You don't care about their feelings'. Similarly, high school participants suggested that an individual should consider the feelings of others before perpetrating violent acts towards others, 'Really they should think, "I've felt like that before so I shouldn't make other people feel as bad as I've been made to feel"' and 'Because they've had a bad experience that should have had an impact on them so that they remember how they felt and how their confidence might have been knocked and then they continue to make someone else feel like it'. As such taking the perspective of others is perceived to reduce the likelihood of acting out.

5.4 Discussion

The aim of the present study was to determine the language to be used within data collection materials used later in the thesis, by exploring how 11-18 year old children and adolescents define and differentiate between terms relating to bullying, aggression and violence. The definition of bullying is not always consistent between children and adolescents, those researching the phenomena and school personnel (e.g. Frisen et al. 2007; 2008; Guerra, Williams and Sadek, 2011; Thornberg and Knutsen 2012; Thornberg, Rosenqvist and Johansson 2011,

see also section 3). This in turn can lead to under or over reporting of this specific subtype of behaviour. The terms 'violence' and 'aggression' are used interchangeably across the research literature, but to date, no research has been conducted to identify what these terms mean to children and adolescents. The findings of the current study also contribute to filling a gap in our current understanding of children and adolescents understanding of different types of negative interpersonal interaction. To date qualitative studies asking children to define terminology relating to negative interpersonal behaviours have focused on their understanding of bullying; a specific subtype of behaviour characterised by its intent to cause harm and repeated nature (e.g. Frisen et al. 2007; 2008; Guerra, Williams and Sadek, 2011; Thornberg and Knutsen 2012; Thornberg, Rosenqvist and Johansson 2011). It is particularly important to understand how children and adolescents differentiate bullying from other forms of negative peer interactions and the meaning behind the language they may use to describe it. Firstly, as detailed in Chapter 2, different types of behaviour enacted due to different underlying motivations (reactive compared to proactive), need different types of intervention strategies to address the behaviour. As such, it is important that not only is a consistent understanding held of the term bullying between those researching the phenomena, teachers and children and adolescents, but also of terms that describe negative interpersonal behaviour that does not fall under the definition of bullying. Secondly, as has been found by previous research, the term 'bullying' elicits specific schemas of the individuals involved in such relationships (e.g. Rodkin and Berger 2008). However, nothing is known about whether children

and adolescents hold similar biased schemas relating to the terms, 'violence' and 'aggression', terms which equally may be included in data collection materials and bias the responses participants provide.

The current section will discuss the findings of the first research phase of the thesis by firstly describing what was found. The most prominent finding of the research was that children and adolescents clearly displayed the perception of two distinct types of negative interaction; one which is reactive (described in their definition of the term 'aggression') and one which is premeditated (described in their definitions of the terms 'violence' and 'bullying'). The children and adolescence in the current sample viewed aggression as a reactive behaviour driven by anger and violence and bullying as controlled, pre-planned behaviour intended to harm others.

A shared understanding of the criteria which defines bullying was held across the participant sample. In alignment with the definition provided by the DfE (2011: 4), participants understood bullying as a set of repeated behaviours which are perpetrated with the intent to cause harm and are perceived as hurtful by the victim (see table 7 for examples). An interesting finding and one reflective of the definition by the DfE (2011:4) was that none of the participants explicitly mentioned the criteria of a power imbalance between the perpetrator and victim in defining and differentiating bullying from other types of negative interactions; a characteristic often, but not consistently included in academic definitions of

bullying. This lack of inclusion of the criteria of a power differentiation is reflective of the finding by Vaillancourt et al. (2008), who found that when asked, 81% of their sample did not mention this characteristic as part of their definition of bullying. It should be questioned, whether this criteria explicitly needs or indeed should be included in the definition of bullying. Historically, the criterion of a power imbalance was not empirically derived when initially suggested as a defining criterion of bullying by Olweus (1993). Rather it was theoretically derived as a way of distinguishing bullying from other forms of aggression (Turner et al. 2015). However, this criteria has remained in the definitions adopted in some but not all of the research literature. The inclusion of this definition has a number of methodological and practical limitations. Methodologically, it is questionable how researchers are to operationalise the concept of a power imbalance. Inherently, the repeated nature of a negative behaviour would suggest that there is a power differentiation in that the perpetrator is able to repeatedly perpetrate such behaviours. If the victim was of equal or superior power to the perpetrator then they would be able to defend themselves and discourage future attacks. However, along which dimension this power differentiation is (e.g. physical size, age, popularity, intelligence) will vary between individual victim/perpetrator dyads and could even vary between attacks between the same victim/perpetrator dyads (Finkelhor et al. 2012). It may even be the case that the victim either does not perceive there to be a power differentiation between themselves and the perpetrator, or does not see this as a defining feature. An assertion supported by the repeated finding that when asked to spontaneously define bullying, victims

themselves do not consistently report the criteria of a power differentiation (Curadro-Gorillo 2012; Vaillancourt et al. 2008). Furthermore, the practicality of including this criteria should be questioned. If an individual is repeatedly trying to cause harm to another individual and the victim is experiencing negative physical and or psychological consequences of such behaviour, regardless of a power imbalance (upon whichever dimension it is measured) they should not be neglected from school based interventions or help (Turner et al. 2015).

The identification of the criteria of purposeful, repeated behaviours when defining bullying suggest that the anti-bullying education being received by the participants interviewed is effective in that they were able to recall the characteristics of a bullying relationship and differentiate this with non-repeated aggressive acts. However, two themes regarding adolescents' understanding of negative peer interactions emerged from the data which may undermine the effectiveness of being able to identify such relationships based on a set of criteria upon the reduction of bullying behaviours. Specifically, these themes relate to factors which mitigate an individual's ability to control their behavior (thus justify their behaviour) and the participants' negative perception of those involved as both the victims and perpetrators of negative interactions.

An important finding was the emergence of a perceived continuum of control over an individuals' expression of anger. Across the sample there was a shared understanding that the term aggression referred to the feeling of anger which may

lead to subsequent physical and verbal expression. What differed across the sample was the perceived purpose and level of control of this expression. Whilst some (only 16-18 year old participants recruited from the high school sample) believed that these behaviours are purposefully enacted to display ones feelings to others, others (individuals from all three schools) believed that reactive behaviours are beyond the conscious control of certain individuals. There were several instances in the data whereby participants expressed that they perceived that the perpetrators lacked control for the use of behaviours; thus potentially lacking accountability for their behaviour. This contributes to the growing body of research suggesting that moral reasoning is used by children and adolescents to justify the use of negative behaviours that they witness (Arsenio, Gold & Adams, 2009; Manning & Bear, 2011; Obermann, 2011). An individual's 'temper' or 'anger problems' were cited as perceived reasons as to why some individuals behave negatively towards others. A number of participants (predominantly the younger members of the participant sample) even attributed these internal 'problems', therefore suggesting the perception of diminished responsibility, to their own behaviour ('one time I lost my temper and started getting a knife out': primary school aged girl). Reasons as to why these perceptions emerged can only be speculated from the data collected within the current study. However, it is important that future research investigates how children and adolescents interpret the intent and personal responsibility of behaviours they encounter. As was done within the examples above, children and adolescents may be removing the personal

responsibility of behaviour from individuals, thus removing the element of intentionality.

The perception that negative actions displayed when angry are beyond an individual's control was not held by all participants. Others believed that individuals have a capacity to contain the feeling of anger. One strategy cited by participants was to reflect upon the potential consequences to others of physically or verbally expressing their emotions by taking the perspective or empathising with others. However, this strategy was perceived to only be effective to a limited extent ('you've been hiding it in all the time so you like don't hurt other people, but then one day you go too far and get really really angry') [primary school aged participant];. By suggesting that an individual should hide their anger so that they, 'don't hurt other people' participants demonstrated the use of cognitive empathy or perspective taking as a mechanism to inhibit the expression of anger. The role of empathy has been investigated previously in relation to the use of bullying behaviour, with research identifying that those who bully others generally have a reduced ability to vicariously experience the negative emotions of their victims, or to affectively empathise (e.g. Arsenio et al. 2009; Barchia and Bussey 2011; Crick and Dodge 1996; Gini 2006; Gini, Pozzoli and Hauser 2011; Jolliffe and Farrington 2006; Lovett and Sheffield 2007; Mayberry and Espelage 2006; Scarpa et al. 2010). However, there are mixed findings in relation to their ability to predict what emotions others would feel, or to cognitively empathise with others (e.g. Batanova and Lukas 2011; Espelage et al 2004; Jolliffe and Farrington 2006 2011; Murray-

Close et al. 2006; Pouw et al. 2013). What is not clear from the research literature, due to a lack of research evidence, is the role of empathy in the use of reactive behaviours; as in the example provided by the participant in the above example. As suggested by the participants in the current sample, taking the perspective of others may play a role in restraining ones behaviour when angry and thus reducing the likelihood of reacting behaviourally to ones negative emotional state. As such, it would appear that more research is needed to investigate the role of empathy in inhibiting the use of reactive behaviours. For a more detailed review of the literature on empathy and reactive and proactive behaviour, see Chapter 7, Section 7.2.1.

Despite the consideration and acknowledgment of the potential consequences of this negative expression, some participants expressed the opinion that there is only a certain capacity to restrain anger ('...but then one day you go too far and get really really angry') [primary school aged participant]; therefore there is a point at which responsibility for ones actions is mitigated. This perception that individuals have only a limited capacity to control behaviour also highlights practical implications. It suggests the need for attention to be paid within schools towards helping adolescents devise strategies for anger management so that they are better equipped to cope with and control their feelings of anger. What the participants did not discuss however was their level of acceptance of these negative behaviours when perpetrated by individuals with a perceived inability to control their behaviour. This perception is particularly important for academics and

educators to understand as prevalence figures suggest that a significant percentage of the population have a diagnosed behavioral disorder characterised in part by the use of impulsive behaviours. Approximately 5% of children and adolescents have been diagnosed with conditions such as Conduct Disorder and Oppositional Defiant Disorder; characterised by actual or threat of physical behaviour, destruction of property, acts of deceitfulness or theft and serious violations of age appropriate rules (Ercan et al. 2011). Children and adolescents are therefore likely to encounter individuals within their school who suffer from and are thus 'labeled' with such conditions. The aim of the thesis is not to explore these diagnosed groups. However, Chapter 7 of the current thesis will explore children and adolescents perceived acceptance of general reactive type behaviours, something which has not been done before.

Across the sample participants portrayed a shared negative perception of both the perpetrators and victims of proactive, premeditated behaviours. The perpetrators of such behaviour were portrayed as people who deliberately cause physical and emotional harm to others and victims were portrayed as 'different' from the majority. Interestingly, across the participant sample, sympathy was explicitly expressed for these, 'different' individuals who are the victims of bullying. Although this is not to say that none of the participants felt unsympathetic towards the victims, rather there were no instances where sympathy was explicitly expressed. Other studies have had a clearer focus on the perceptions of the victims and perpetrators of bullying. Rigby and others, in their quantitative

research, which employed over 6000 Australian children and adolescents, found that although the majority are sympathetic, those who utilise bullying behaviours report actively disliking victims (Rigby 2005) and report a lack of sympathy for them (Rigby 1997; Rigby and Slee 1991). More recently, in a sample of 9-11 year olds, sympathy for victims was explored in different bullying contexts. Fox, Jones, Stiff and Sayers (2014), presented participants with a number of short stories depicting males and females in the roles of the bully and victim of different types of behaviours (physical, verbal or relational). They found significant differences in reported sympathy for the victims between males and females and dependent upon the gender of the perpetrator and type of behaviour being depicted in the story. Specifically, they found a significant effect of the gender of the bully, such that more sympathy for the victim was reported in the stories where the bully was female compared to when the perpetrator was male; thus indicating less sympathy in other situations. Although viewing the role of the perpetrator of proactive behaviours negatively is a positive attribution in terms of discouraging adolescents from engaging in this type of behaviour, perceiving the victim as 'different' in addition to a lack of sympathy for their plight may be detrimental for both those being victimised and methodologically for those investigating the prevalence of such behaviour. From a methodological standing, this negative picture held of those involved in bullying may help to explain the lower reported prevalence rates observed from studies adopting questionnaires using the word, 'bully', compared to those completing questionnaires without this term (Vaillancourt et al. 2008). Adolescents may be reluctant to, or may inaccurately report their victimisation of

repeated premeditated proactive negative behaviours if the perception of the culture they belong to rejects involvement in these types of negative relationships. In terms of the impact that this view may have upon those who are the victims of such behaviour, the perception of victims as being 'different' may be further encouraging their victimisation by facilitating others to morally disengage themselves from these perceived minority groups. According to Bandura's (2002) Theory of Moral Disengagement, by perceiving a victim as different (dehumanising a victim), the perpetrators of negative behaviours can disengage with the potential consequences of their actions upon their victim. Furthermore, if this perception is held by the wider social group, this could lead to social isolation above that being directly promoted by the bully; as peers may also disassociate themselves with these stigmatised individuals.

What was not clear from the data however, was how the perception of the victim as being 'different' had developed; whether the adolescents themselves had observed that members of minority groups are more frequently the target of bullying (as has been suggested within past research by Sentenac et al. 2011; Twyman et al. 2010) or whether other factors are influencing and/or reinforcing this perception. One explanation for this view is that the participants may be adopting this perception as a self-protecting mechanism as a means by which to disassociate themselves with the anxiety related to the perception that they may be a future target of negative interpersonal behaviours (Zeedyk et al., 2003). This may be the case for the 11 year olds within the primary school sample, who at the time

of the data collection were nearing completion of their time at primary school and preparing to move up to secondary school; a time characterised by an anxiety of the unknown (Rice, Frederickson & Seymour 2011) and where the established social dynamics of the school and peer group will change. Another explanation focuses on the education adolescents receive about bullying within schools and via external sources of information specifically relating to bullying. Due to a lack of standardised curriculum for anti-bullying education it is unclear how schools are addressing the topic of the victims of negative peer interactions generally and specifically in regard to those involved in bullying.

There are dangers in promoting the image of the victims of proactive forms of aggression of 'different'. There is the danger that schools and the media within England and Wales may be drawing unnecessary and potentially detrimental attention towards identifiable 'differences' of those who are the victims of targeted negative behaviours, particularly if done so in isolation to expressing the value of and celebrating individual differences. It needs to be made clear that although the victims of such behaviour are often 'different' in some way from others, differences and diversity in a group are beneficial and should be embraced. It should be clear that it is not the fault of the victim that they may be perceived as 'different' from the peer group, rather the issue is with the perpetrators who are not embracing or accepting of perceived difference. The DfE's 'preventing and tackling bullying' (2012) literature (designed to inform school employees about bullying) states that bullying, may be motivated by actual or perceived differences between children.

Furthermore, this view is also promoted in other resources accessible by children and adolescents which aim to inform them about bullying. A website designed specifically for children and adolescents, constructed by the BBC (a state funded broadcasting corporation) states that, 'bullying often starts when people pick on something about you that is different' (BBC Newsround 2011). Although it may be the case that perceived differences are part of the reason why some individuals are the targets of bullying, the heavy focus on the characteristics of the victim rather than the bully may be promoting and/or reinforcing the idea of the victims of bullying are somehow 'different' from the peer group which could be detrimental to the inclusion of these individuals into the wider peer group and to the self-esteem/identity of the victims of such behaviour. Further, research is needed to investigate not only where children and adolescents are acquiring their knowledge about bullying, but which sources affect and promote a change in the attitudes and beliefs they hold about those involved in bullying. By understanding which sources children and adolescents value educators will be in a better position to create effective anti-bullying curricula.

It should be noted that the data for the current research phase were collected from a small participant sample that was selected by the class teachers to participate. The findings therefore only reflect the understanding of participants within three schools within a small geographical area under one Local Education Authority in England, and who may have been selected by the teachers due to certain characteristics such as a perceived good understanding of the topic area.

Further research is therefore needed to investigate the themes which emerged from the current sample across a much larger sample before generalisations and age related differences can be suggested. A further limitation of the current research was that participants were not asked by the researcher to expand upon the responses they gave to each word provided to them; therefore the responses provided are not necessarily indicative of their full understanding of the terms bullying, violence and aggression. It should also be noted that data were also collected to investigate children and adolescents understanding of the terms, 'cyber bullying', 'cyber aggression' and cyber violence'. However, after collecting this data the direction of the thesis changed to focus on 'traditional' forms of reactive and proactive behaviours. Although the analysis of the definitions provided is not included in the thesis, the sections of the transcripts detailing participants responses to 'cyber' related terminology can be found in Appendix 6 and a brief discussion of the implications of including an investigation cyber aggression in future research can be found in Chapter 9, Section 9.6.2.

5.5 Conclusion

This chapter identified that children and adolescents aged between 11-18 years held a consistent shared understanding of the definition of a bullying relationship and furthermore this definition reflected the criteria specified by the DfE (2011: 4) in being repeated in nature and intended to cause harm. Interestingly, what was not mentioned was a power imbalance between victim and perpetrator. They drew a clear distinction between the terms 'violence' and

'aggression', with 'violence' being defined as purposeful acts intended to cause harm. The term 'aggression', however, was defined as the experience of anger with or without behavioural expression. Themes emerged from the data reflecting characteristics that differentiated their understanding of the three terms. The participants differentiated the terms bullying, violence and aggression by the level of control they perceive the perpetrators to have over their behaviour and the repetitive nature of the behaviour. The level of control mediated their perception of the perpetrator, with those who enact deliberate premeditated acts as being perceived unfavourably. What was interesting was that this negative perception was not articulated for those displaying behaviours defined as reactive to anger, rather a lack of control was expressed to explain the use of such behaviour. To date no research has been conducted to investigate children and adolescents' perception of emotion driven reactive forms of behaviours. As such, the second research phase of the thesis will investigate this (presented in Chapter 7). A further theme in the participants talk identified that children and adolescents in the sample identified taking the perspective or empathising with others as an inhibitory mechanism for engaging in negative interactions with others. As detailed previously, the role of empathy in regulating one's emotions and subsequent reactive behaviour has only been investigated once before by Mayberry and Espelage (2007). However, as will be detailed in Chapter 8, this study suffers from methodological limitations which limit the generalisability of the findings. As such this area warrants further research.

5.6 Continuation of the thesis

The current chapter was influential in providing direction for the remainder of the thesis. Firstly, it confirmed that children and adolescents are experiencing both reactive and proactive forms of negative interpersonal behaviours. Secondly, it identified that children and adolescents in the current sample, held a consistent understanding of the meaning of the terms 'violence' and 'aggression'. As such, like with the term 'bullying', the terms 'violence' and 'aggression' were not included in later data collection materials to avoid the potential of bias responding if these terms elicit specific understandings/definitions (for a review of the implications of using the term 'bullying' see Chapter 3, Section 3.4.1). Finally, participants identified socio-cognitive factors which reflected risk factors for engaging in reactive and proactive aggression as identified in Chapter 2 (Section 2.2.1). The children and adolescents perceived the ability to empathise and the perception of the acceptability of behaviour to be associated with the use of aggressive behaviour. These are risk factors which have not previously been explored in relation to reactive behaviours and will be further explored and reported in the next Chapter.

In order to ensure consistency throughout the thesis the terms 'reactive aggression' and 'proactive aggression' will be utilised to differentiate between the motivations of reactive and proactive forms of negative interpersonal behaviours. Although, as identified in the current chapter the children and adolescents across the sample held a consistent understanding of the term 'violence' as describing

proactive and 'aggression' as describing the feeling of anger which may lead to behavioural expression, it was felt that the terms 'reactive aggression' and 'proactive aggression' are clearer in conveying the motivational distinction between the two types of behaviour being explored in the thesis.

The next phase of research to be presented in the thesis will explore a behavioural typology of the use of reactive and proactive aggression. This typology will be further explored by investigating demographic and differences between the groups in their self-reported ability to empathise, their level of perceived acceptance for reactive and proactive aggression and children and adolescents' perceptions and understanding of why people become involved in negative interactions with peers.

Note: This Phase of the research was submitted and published in the Children and Youth Services Review. A copy of the Paper can be found in Appendix 7.

6.0 The identification of a behavioural typology of reactive and proactive aggression and its associations with involvement in bullying

6.1 Introduction

Chapter 2 identified research supporting distinct developmental risk factors for the development of reactively and proactively aggressive behavioural repertoires (e.g. Calvete and Orue 2012; Crick and Dodge 1994; Heckens et al. 2010; Hubbard, McAuliffe, Marrow and Romano 2010; Putman et al. 2010; van Honk et al. 2005). Supportive of the motivational distinction between the two types of behaviour, there was recognition by the 11-18 year olds who participated in the focus group interviews reported in Chapter 5, that the negative behaviour can be defined as reactive or proactive in nature. They defined 'aggression' as the experience of anger which could lead to a reactive response (referred to in the thesis as reactive aggression), and 'violence' (referred to in the current thesis as proactive aggression) as pre-planned, purposeful behaviour. The identification of the type of behaviour children and adolescents display in schools and the language they use to report it is important in ensuring that effective prevention/intervention programmes are constructed to address the specific needs of those displaying reactive compared to proactive forms of aggression. Studies investigating these two types of behaviour consistently find an overlap in the use of reactive and proactive aggression; an overlap which raises questions regarding our understanding of the development of these behaviours and also the identification of the needs of those who display them. As will be detailed, few studies have adopted

a person-centred approach to investigating the use of reactive and proactive aggression, which allows for the identification and degree of overlap in the use of these behaviours (Crapanzano, Frick and Terranova 2010; Fite, Colder and Pelham 2006; Mayberry and Espelage 2007; Stickle, Martin and Thomas 2012; Unever 2005), and fewer still have investigated associations between behavioural group membership and involvement in bullying (a specific type of proactive aggression and the focus of Ofsted inspections) (Camodeca et al. 2002; Crapenzano et al. 2010). This Chapter will present the second phase of data collection of this thesis and identified a behavioural typology of the use of reactive and proactive aggression in a sample of 9-14 year olds. To further explore this typology, associations between behavioural group membership, involvement in bullying (as the perpetrator, victim and bully-victim), gender and age were explored.

6.2 Background

Strategies constructed by schools to keep children and adolescents safe from harm from the negative behaviour of other children need to be based upon the knowledge of what types of behaviour is being used. The use of non-repeated proactive and reactive aggression places the victims and perpetrators of the use of these types of behaviours at risk of negative social and psychological outcomes (e.g. Boulton 2013; Jacobs and Harper 2013). To reiterate, reactive aggression refers to the use of behaviours enacted in response to a perceived provocation and without prior planning (Kempes et al. 2010). Conversely, proactive aggression

characterises behaviours that are premeditated, goal-oriented and perpetrated independently of a perceived threat to personal safety (Arsenio, Adam and Gold 2009; Kempes et al. 2006; Merk et al. 2005). Research has found qualitative differences in the risk factors that promote the development of reactive compared to proactively aggressive behavioural repertoires. Those who displayed reactive forms of aggression display characteristics associated with a limited ability to regulate their emotions (e.g. Hinnant and El-Sheikh 2009; Hubbard et al. 2002; Katz 2007; Ortiz and Raine 2004). Whereas those who display proactive aggression tend to be exposed to risk factors associated with perceiving and valuing the use of such behaviours to be effective for achieving goals (Arsenio et al. 2009; Bear and Manning 2011; Bernburg and Thorlindsson 2005; Bettencourt and Farell 2013; Murray Close et al. 2006; Obermann 2011). The participants in Phase 1 (presented in Chapter 5) also identified reasons similar to these regarding why they believe others utilise reactive and proactive aggression. Specifically, they perceived a continuum of control whereby those who display aggressive behaviours have a limited level of control over their behaviour, but they perceived that those who display proactively aggressive behaviours did so intentionally to cause harm (see Chapter 5, Section 3). It is therefore apparent that for intervention/prevention programmes designed to reduce the use of negative and harmful behaviours to be effective, it is essential that the type of behaviour children and adolescents display must first be identified. Following this a targeted intervention plan must be implemented which addresses the underlying motivation for the behaviour being used.

Although developing targeted interventions is likely to be a more effective method for reducing negative behaviour than following a 'one size fits all' approach, a challenge facing educators is identifying those who would benefit from these targeted interventions as research identifies a high level of overlap in the use of reactive and proactive aggression. This was first identified by studies adopting a correlation approach to investigate associations between the use of reactive compared to proactive aggression and risk factors associated with the two types of behaviour individually (e.g. Dodge 1991; Little. 2003; Poulin and Boivin 2000; Vivaro and Brendgen 2005). These studies consistently identified a correlation between the reported use of the two types of behaviour of between $r = .4$ and $.9$. This poses a problem both methodologically and practically in terms of designing effective intervention programmes in school aimed at reducing the prevalence of these behaviours. Methodologically, the high overlap between the two types of behaviours violates the assumptions of bivariate normality required to conduct a variable-centred correlation to investigate associated risk factors with the two types of behaviour individually (Cohen, 1983). As such others have taken a person-centred, rather than variable-centred approach to investigating the behavioural patterns of the use of both reactive and proactive aggression in order to account for the overlap in the use of these behaviours (e.g. Chan, Fung and Gerstein 2013; Crapanzano, Frick and Terranova, 2010; Fite, Colder and Pelham 2006; Mayberry and Espelage 2007; Stickle, Martin and Thomas 2012; Unever 2005). Those who have utilised a person-centred approach by using a cluster analytical approach have consistently found an overlap in the use of the two types of behaviours but

also sub-groups characterised by their predominant use of either reactive and/or proactive aggression (e.g. Crapanzano, Frick and Terranova 2010; Fite, Colder and Pelham 2006; Mayberry and Espelage 2007; Pang, et al 2013; Stickle, Martin and Thomas 2012; Unnever 2005). This finding is robust across studies which have employed different scales to measure reactive and proactive aggression from data collected via self-reports (Crapanzano et al. 2010; Mayberry and Espelage 2007; Pang, et al 2013) and those collected via teacher/parent reports (Fite et al. 2006; Stickle et al. 2012) and those collected from community samples (Crapanzano et al. 2010; Fite et al. 2006; Mayberry and Espelage 2007) and adjudicated youth (Stickle et al. 2012).

Prior to collecting the data for the current research phase only two studies have collected self-reported data regarding children and adolescent's use of reactive and proactive aggression and analysed this data using a person-centred, cluster-analytic approach. Both were similar in identifying a group displaying none, or low levels of reactive and proactive behaviour and a group reporting using high levels of both. What differed between the studies were the groups in between. The first of these studies was conducted by Mayberry and Espelage (2007), who collected data from 433 11-14 year olds ($M=13$ years, $SD= 1.02$) in the USA via a scale developed by Little et al. (2003). A cluster analysis revealed four behavioural groups, one uninvolved, one group characterised by their use of reactive aggression, one by their use of proactive aggression and one reporting high levels of both reactive and proactive aggression. A limitation of their study was that the

scale that they administered consisted of only twelve items; six to measure reactive and six to measure proactive behaviours and so only drawing upon a very limited number of behaviours. The scale required participants to respond by saying how true twelve statements were to them ('not true at all', through to 'completely true'), therefore not actually asking participants to comment on how frequently they had engaged in these behaviours. Items included 'when I am hurt by someone I often fight back'. The second study was conducted by Crapanzano et al. (2010), who administered the 40-item peer conflicts scale (Marsee and Frick 2007; Munoz et al. 2008) to 282 9-13 year olds (mean age 11.28 years; SD 1.82). When investigating the use of physical aggression in males and females (conducted as separate analyses), they found three behavioural clusters characterised by those who infrequently used reactive or proactive aggression, those who reported using *mild* levels of reactive aggression, and a final group reporting a high frequency of the use of both reactive and proactive aggression. However, the analysis of males' and females use of relational aggression identified a different pattern of behaviour. In males they found three groups, one characterised by low frequency of the use of both reactive and proactive aggression, moderate use of both and high frequency of the use of both. For the analysis of females they found a group low in both, one group high in reactive aggression and one group high in both. As with the study by Mayberry and Espelage (2007), the scale administered by Crapanzano et al (2010) asked participants to read a number of statements and to indicate how true to them each statement was (not at all true, somewhat true, very true, definitely true). Again, the participants were not asked if they had actually engaged in these

behaviours, rather they were asked to comment on their perception of how like them the statements were. This is a limitation as from the findings of both of these studies it is not clear whether participants had actually ever encountered the situations in the scale or engaged in such behaviours. This is a limitation that the current research addresses, as participants will be asked to comment on whether or not they have actually engaged in a list of reactive and proactive behaviours.

The findings of these studies have important implications for developing our theoretical understanding of the development of these behaviours and also for the construction of targeted intervention/prevention programmes in schools. It appears consistent, regardless of whether or not participants are asked how true a statement is or whether or not they have actually engaged in aggressive behaviours, that two groups are identified; one displaying low levels and one displaying high levels of reactively or proactively aggressive behaviour. What appears to be inconsistent is the characteristic of the middle groups.

Predominantly, groups characterised by more frequent use of reactive aggression and low levels of proactive aggression have been found (Chan, Fung and Gerstein 2013; Crapanzano, Frick and Terranova 2010; Mayberry and Espelage 2007). This raises important developmental and practical questions regarding our conceptualisation of these behavioural patterns. In terms of our understanding of the development of these behaviours, it raises a question regarding whether the use of reactive and proactive aggression should be conceptualised in terms of a typology model, whereby each distinct behavioural group are qualitatively different

from one another, or rather should be viewed as a severity model whereby the risk factors are the same for both reactive and proactive aggression but the display of proactive aggression is indicative of the presence of more severe, rather than qualitatively different developmental risk factors. The findings of the studies by Crapanzano et al. (2010) and Stickle et al. (2012) (who investigated a sample adjudicated youth), would support this theory. However, the group identified by Mayberry and Espelage (2007), characterised by the predominant use of proactive, compared to reactive aggression does not. As such further research is needed to contribute to this debate. There are however, a number of methodological limitations of past research as detailed above and without a more robust re-examination of the topic taking these concerns into account we cannot have confidence in the findings that others have obtained to date. This was the aim of the current study.

What is also unclear from the research literature investigating the use of reactive and proactive aggression is how bullying fits with this model. As specified in the Introduction Chapter of the thesis, there is the risk that by imposing strict criteria to identify bullying (particularly in schools), behaviour that does not conform to the constraints of this definition and those who experience repeated acts of aggression, but not perceiving a power imbalance nor perceiving intent, will not be identified as needing help (Finkelhor, Turner and Hamby 2012). The findings of a study by Hunter, Boyle and Warden (2007) demonstrate this. On a measure of peer aggression, 30.7% of a sample of 1,429 8-13 year olds reported experiencing

repeated acts of peer aggression. However, when an additional filter was imposed to identify those within this group who perceived that the behaviour against them was intentional and there was a power imbalance between themselves and the perpetrator, only 38.1% (11.7% of the whole sample) were defined as being the victims of bullying. As such, potentially allowing for approximately 20% of children and adolescents who are experiencing peer aggression to escape the attention of those measuring by a strict definition of bullying. Although the victims of bullying were found to experience this peer victimisation qualitatively differently to those who did not perceive intent and a power imbalance (on measures of perceived threat and control and depressive symptomology), this does not justify neglecting to identify and help those who are experiencing harmful behaviours from their peers.

It is also unclear if identifying those involved in bullying will also highlight to school personnel those who utilise reactive aggression and vice versa. An issue with the heavy focus on identifying bullying specifically in schools is that it may not address the needs of those who do not fit the criteria of bullies, for example those who display reactive aggression (a concern shared by researchers such as Cornell and Mayer 2010 and Finkelhor, Turner and Hamby 2012). To date only two studies to the researcher's knowledge have investigated associations between the use of reactive and proactive aggression and bullying (Camodeca et al. 2002; Crapenzano et al. 2010). The first, a study Camodeca et al. (2002) identified behavioural groups via a correlation design defined by their use of reactive

aggression, proactive aggression and a further group characterised by the frequent use of both types of behaviour. They found that those who reported using both reactive aggression and proactive aggression reported the most frequent perpetration of bullying. The second study by Crapenzano et al. (2010), as detailed above, similarly to that found a higher prevalence of bullies in the reactively/proactively aggressive group compared to the other behavioural groups. However, both this study and the one conducted by Camodeca et al. (2002) include methodological elements that render the reliability of the prevalence rates of bullying they obtained questionable. Camodeca et al. (2002) administered the Aggression and Victimization Scale (Perry, 1988) and asked participants to nominate peers who they believed fit a list of behavioural descriptions. From the information provided in their paper, it appears that the scale is actually an indicator of peers' perceptions of those who utilise or experience general forms proactive aggression rather than bullying. With the scale including items such as, 'makes fun of people', the items do not appear to ask participants to comment on whether or not these behaviours are repeated, nor perceived to be enacted with the intent to cause harm; therefore not fulfilling the criteria which differentiates and characterises bullying from general forms of proactive aggression. Although the study by Crapenzano et al. (2010) did measure bullying by the criteria of Olweus (1996), their provision of a definition of bullying, which include the word 'bullying' itself may have produced a reduced estimate of the prevalence of bullying within the sample. As was detailed in Chapter 3, the use of the word bullying has been found to be problematic due to the specific schema of the characteristics of those

considered to be bullies (e.g. Rodkin and Berger 2008). As such further research is needed which employs a more reliable methodology.

As detailed in Chapter 2, relatively consistent findings across the research literature suggest gender and age related associations with the use of reactive and proactive aggression (e.g. Bas and Yurdabakan 2012; Borsa et al. 2013; Marsee, Weems and Taylor 2008; Mathieson and Crick 2010; Stickle, Marini and Thomas 2012). Although containing items relating to the relational forms of proactive aggression, the scale employed in the current study to identify the prevalence of proactive aggression focused predominantly on direct and physical forms of aggression (the implications of this are detailed in the Discussion chapter, chapter 9). It was therefore predicted that in the current sample there would be a greater representation of males compared to females in the behavioural groups characterised by a higher frequency of proactive forms of aggression. Reflecting the literature presented in Chapter 2, which suggests a temporary increase in the use of aggression at around the time of a school transition (Forrest et al. 2013; Pellegrini and Long 2002), it is also predicted that the 11-12 year old secondary school sample would report using proactively aggressive behaviour more frequently compared to the primary and 13-14 year old sample.

6.2.1 Study rationale, research questions and hypotheses

In order to design and implement effective strategies to reduce the prevalence/prevent the occurrence of interpersonal behaviours that may be

harmful to children and adolescents in schools, it is important that we gain a greater understanding of the type of aggression being used. Given the theoretical distinction between reactive and proactive aggression (as detailed within Chapter 2), a focus to reduce the use of one type of behaviour may be ineffective in reducing the use of the other (e.g. Calvete and Orue 2012; Crick and Dodge 1994; Heckens et al. 2010; Hubbard, McAuliffe, Marrow and Romano 2010; Putman et al. 2010; van Honk et al. 2005). To date few studies have been conducted using methodology which can reliably identify the co-occurrence of reactive and proactive behaviour, as such further research is needed to support this severity model.

The overarching aim of this study therefore was to identify a behavioural typology of the use of reactively and proactively aggressive behaviours in a sample of 9-14 year olds in England. Furthermore, little is known about associations between the use of these behaviours and bullying. As such once the behavioural typology was identified, associations between behavioural group membership and bullying were explored (this investigation was not however included to validate the typology). To do this, the following research questions were explored:

1. Do children and adolescents who engage in reactive and proactive aggression form distinct groups based on the type and frequency of behaviour they display?
2. Are there any significant age and gender related associations with membership in the behavioural sub- groups?
3. Is membership in each of the behavioural groups associated with involvement in bullying?

Based on the past research literature it was hypothesised that:

1. Distinct behavioural groups would be identified based upon their use of reactive and proactive aggression; one of which would be characterised by the frequent combined use of both reactive and proactive aggression.
2. Males would report displaying reactive and proactive aggression more frequently than females.
3. Those within the 11-12 year old age group of the secondary school sample would report using reactive and proactive aggression more frequently than those within the primary and 13-14 year old secondary school sample.

6.3 Method

6.3.1 Participants

Participants recruited were aged between 9-14 years. Before this age, researchers have argued that repeated acts of aggression may in actuality not be perpetrated with the intent to harm as children may not have the cognitive ability or knowledge that using negative verbal or physical behaviours harm others (Pons and Harris 2005; Pons, Harris and deRosnay 2004). Therefore, in order to identify acts of proactive aggression perpetrated with the intent to cause harm, the lower bound age restriction of 9 years old was adopted; by this age children should have the knowledge of the societal rejection of the use of reactively and proactively aggressive behaviours.

Participant recruitment process

For Phase 2 of the data collection process (data presented in the current chapter and chapters 7 and 8) the head teachers of all of the high schools/colleges (pupils aged 14-18 years), secondary schools (pupils aged 11-14 years) and 70 primary schools (asking for participation from pupils aged 9-11 years) within Leicestershire and Coventry were contacted and invited to participate in the research. Although the aim was to recruit participants from all three school groups (primary, secondary and high) none of the high schools (inclusive of adolescents aged 14-18 years) volunteered to participate. Attempts were made to engage these schools with follow up emails and phone calls after the initial invitation to participate was sent out via an email. The final sample comprised of participants from two secondary schools and three primary schools. The two secondary schools who participated were the first to respond to the invitation and volunteered to take part in the research; from which 464 participants were recruited. Attempts were then made to recruit similar numbers of participant from both primary and high school/college samples. However, due to a lack of participation requests from any of the high schools and requests from only 3 primary schools, the final number of participants recruited was determined by the number of schools willing to participate. As was the procedure in Phase 1, a letter was sent home to all parents within the specified age range and an opt out parental consent procedure was followed (See Appendix 8 for a copy of the parental participant information and consent sheets).

702 participants completed the questionnaire; however after screening the data collected and removing the data that did not conform to the criteria outlines in Section 6.4.1, the total number of participants whose data was included in the analyses was 658. The demographics of the participant sample are outlined in Table 8. In order to differentiate those recently experiencing the transition in to secondary school to those who are more established, the secondary school sample was differentiated in to two age groups.

Table 8. Participant demographic details

Demographic variable	Mean age (SD)	Males	Females	Total
Primary school				
9-11 years	10.23 (.63)	87	106	193
Secondary school				
11-12 years	11.89 (.32)	94	95	188
13-14 years	13.4 (.49)	121	155	276
Total	12.06 (1.41)	302	356	658

6.3.2 Measures

The data were collected via three questionnaire scales. One to measure proactive and reactive aggression (The Reactive-Proactive Aggression Questionnaire; Raine et al. 2006) and two shorter scales to measure the participants involvement as the victim and perpetrators of bullying (The Peer Victimization and Bullying Scale; Mynard and Joseph 2000). The details of these

scales will now be presented (see Appendix 9 for a copy of the questionnaire administered).

6.3.3 Quantitative measures included within the questionnaire.

The Reactive-Proactive Aggression Questionnaire (RPAQ; Raine et al., 2006)

The research in this thesis employed a scale that enabled the measurement and differentiation of both proactive and reactive aggression; namely, a modified version of The Reactive-Proactive Aggression Questionnaire (RPAQ; Raine et al. 2006). The authors of this scale define proactive aggression as, 'Instrumental, organised, and "cold-blooded" with little evidence of autonomic arousal' (Raine et al. 2006: 160). Reactive Aggression however is defined as, 'fear induced, irritable and hostile affect-laden defensive response to provocation' (p161). The scale consists of 23 self-report items, of which 11 items measure reactive and 13 measure proactive aggression. The participants were required to indicate how often they had engaged in each of the behaviours included on the list in the past month. The scale was deemed suitable for the purpose of the current research as each item within the scale states both the motivational, situational elements of the specified resulting behaviour; as such differentiates reactive and proactive aggression. The RPAQ (Raine et al. 2006) was modified to provide participants with a more specific frame of time reference than the original scale. The participants were asked, 'how often have you done these things in the past month' and were given the response options of, 'never', 'once', '2-3 times', 'about once a week', 'more than once a week'. This was modified from the original non-specified

time reference of, 'never', 'sometimes' and 'often'. Defining specific time scales of reference reduces the ambiguity of the terms, 'sometimes' and 'often'; which could be interpreted differently by participants across the sample.

A self-report method was chosen to collect data regarding the use of aggressive behaviours within the current research as opposed to the widely adopted teacher/peer report methods (Kim et al. 2009; Monks 2005; Ristkari et al. 2009; Weinke et al. 2009). As detailed in Chapter 3 (Section 3.4.2.2.), although others can speculate, others cannot know with certainty the intrinsic motivations held by other individuals for displaying such behaviours; for example others may not be in a position to identify in all situations whether an individual purposefully planned a behaviour to achieve a goal or reacted to a perceived provocation.

The Reactive-Proactive Aggression Questionnaire (RPAQ, Raine et al. 2006) is one of the few self-report scales available that suit the needs of the current research in terms of being grammatically simple enough to be completed by children as young as 9 years old. It has previously been utilised by other researchers investigating the use of reactive and proactive aggression and in child and adolescent samples around the world (Baker et al. 2008; Bas and Yurdabakan 2012; Bezdjian et al. 2011; Cima et al. 2013; Raine et al. 2006). Other than the scale designed by Little et al (2003), the RPAQ (Raine et al. 2006) is the only scale known to the researcher that has been designed for use with children and adolescents. Other methods that have been employed to collect data regarding

children and adolescents' use of reactive and proactive aggression include interviews asking participants to nominate peers who behave in a similar manner to hypothetical scenarios (Österman et al. 1994) and self-reported responses to how individuals think they would respond to hypothetical situations (Marks et al. 2012). These methods were rejected due to the subjective nature of asking participants to respond to a very specific event or situation. For example an individual may or may not act aggressively in that very specific scenario presented to them but may act otherwise in a different situation.

Scoring and analysing the data

The data were entered into IBM SPSS (version 20 2011). The sum of the responses to the items relating the use of reactive (items 1, 3, 5, 7, 8, 11, 13, 14, 16, 19, 22) and proactive aggression (items 2, 4, 6, 9, 10, 12, 15, 17, 18, 20, 21, 23) on the RPAQ scale (Raine 2006) were calculated and recorded as two separate scores for each participant. These two scores for each participant were then subjected to K-means Cluster Analysis in order to identify meaningful groups based upon their pattern of use of reactive and proactive aggression. This method allows for groups to be identified based upon the variables included within the analysis. By conducting a K-means Cluster Analysis to identify behavioural groups this served to contribute the current debate on the heterogeneity of reactively and proactively aggressive behaviours, but also ensured that the data are not forced into predefined behavioural categories and measured on a linear scale; a method which is not supported by past research evidence (Crapanzano et al. 2010; Stickle et al. 2012). To conduct the cluster analysis, for each participant the total reactive

and total proactive aggression scores obtained from the RPAQ (Raine et al. 2006) were converted to z-scores and entered as two separate scores into an K-means cluster analysis. Reflecting the clusters found by past research in total four analyses were conducted, each imposing a different cluster solution. Firstly, imposing a two, secondly with a three factor solution and finally with a four factor solution. Following the method employed by Stickle et al. (2012), the fit of each solution to the data was then investigated by examining the variance within each of the three solutions by looking for a significant jump in variance explained by the three solutions (see section 6.4.2 for the results).

Due to the non-normally distributed data, in order to identify how the clusters were differentiated by the reported use of reactive and proactive aggression a Kruskal-Wallis analysis was conducted to investigate differences in group scores between the three behavioural clusters identified (again, see Section 6.4). Where significant differences were found Post-hoc Mann-Whitney analyses were then conducted to identify precisely where the differences between the groups lay. To identify demographic differences in membership within each behavioural cluster further analyses were then conducted by running non-parametric analyses (reflective of the non-normally distributed data). For this a log linear analysis was conducted to identify any differences between the gender and age groups, but also to identify, if significant differences were found, which was the stronger effect on membership in the three clusters. Differences between the gender and age groups

were found and so subsequent post-hoc Mann-Witney analyses to identify where the differences were.

The Peer Victimization and Bullying Scale (PVBS; Mynard and Joseph, 2000)

The Mynard and Joseph (2000) Peer Victimization and Bullying scale is 9 item scale which requires participants to indicate on a Likert-type scale how often they have engaged in a list of behaviours which could be utilised in bullying relationships. As stated previously the DfE of define bullying as, 'behaviour by an individual or group, repeated over time that intentionally hurts another individual or group either physically or emotionally' (DfE 2011: 4), with the additional criterial of a power imbalance being included by some across the research literature (e.g. Olweus 1996). As can be seen in the scales presented in Appendix 9 the criteria of the behaviour being perpetrated/ perceived as purposeful is encapsulated within the wording of the scale items themselves. The repeated element is encapsulated by the participants indicating that they have engaged in the behaviours more than once in the past month and captured in the analysis of the data by defining bullies/victims/bully-victims as experiencing or perpetrating behaviours more frequently than 1 standard deviation above the sample mean score. As discussed previously, although others have included a 'power imbalance' as explicit criteria, this thesis follows the definition provided by the DfE in the UK. The repeated nature of the behaviour implies that the victim is unable to defend themselves to stop attacks repeatedly occuring, thus the perpetrator is a more powerful position than the victim.

The content of the original scale was modified to facilitate identification of the different roles within bullying relationships. The behaviours included in each item remained consistent with the original scale but the wording of the two scales were modified to identify *bullies* and *victims*. The time frame that participants were asked to reflect upon was also modified and participants were asked to reflect upon how often within the past month they had been involved in the list of behaviours. The response options were, 'never', 'once', '2-3 times', 'once a week', 'more than once a week'. This time scale reflect that suggested by Solberg and Olweus (2003), who suggested that a set of behaviours should occur at least 2-3 times before being defined as bullying. The Crombach's alpha scores for the 'victim' scale and the 'bully' scale were .87 and .85 respectively.

Alternate scales which have been widely employed in past studies investigating bullying within late childhood and adolescents include the Olweus Bully-Victim Scale (OBVS; Olweus 1996), the Participant Role Questionnaire (PRQ; Menesini and Gini, 2000) and the Safe School Questionnaire (Olweus 1989). These scales were rejected for use within the current research due to each one containing a direct reference to and questions using the terms, 'bully' or 'bullying'. Past qualitative research has identified a disparity between what these terms mean children compared to researchers and even between different groups of children (Frisén et al. 2008; Kert, Coddington, Tryon and Shiyk, 2010; Rodkin and Berger 2008; Vaillencourt et al. 2008). Further, quantitative research has observed

a difference in prevalence rates of bullying between questionnaires containing the word 'bullying' or 'bully' and a subsequent questionnaire which did not (Bosworth et al. 1999). These studies may suggest that children and adolescents may hold a specific understanding of what bullying is and schemas of who would be involved in bullying. As such these studies highlight that there may be the risk that children respond to the questions including the term 'bullying' or 'bully' based on their own understanding of the term rather than by the criteria under investigation by the researchers (see Chapter 3). An alternate scale that could have been considered for the data collection was that by Owens and Slee (2006). This 10 point scale has been employed to record experience of bullying behaviours in samples of adolescents aged 13-16 years-old (e.g. Owens, Skrzypiec and Wadam, 2014). The scale asks the respondent to document how frequently they have experienced any behaviour that fall under the following categories, verbal, physical and relational/indirect. An advantage of this scale is that it keeps the categories open-ended and inclusive of any behaviour that may fall under that category. However, as with other scales, it includes the word 'bullying'. In addition to this items relating to of Universal sexual behaviour, Cyber, Extortion and Extreme Violence were either not intended by the researcher to be measured, or in the case of Universal sexual behaviour the head teacher of one of the primary schools recruited did not think it appropriate to discuss this topic with her pupils (discussed in a conversation prior to the design of the reported research). The scale being employed in the current study does not require the provision of the definition of bullying nor the words 'bully' or 'bullying' for participants to comprehend the task they are being

asked to carry out. The items in the PVBS themselves include terminology such as 'on purpose' which infer intentionality and asking participants to rate 'how often' these behaviours occur identifies repeated behaviour. As a consequence, this reduces the likelihood of bias responding due to the negative connotations associated with the term bullying (for a more detailed review of the effect of the provision of the term bullying, see Chapter 3, section 3.4.1.).

Scoring and analysing the data

The data from the PVBS (Mynard and Joseph 2000) scale were used to categorise participants into bully role groups. For each item on each scale participants were allocated a score of '0' when indicating '*never*' encountering a behaviour, through to a score of '4', when indicating experiencing a behaviour '*more than once a week*'. For each of the two scales the sum of the scores was calculated and each participant subsequently had a 'bully' score and a 'victim' score. The sample mean score and standard deviation was then calculated separately for both the 'bully' and 'victim' scale. Four additional columns were then added to the SPSS spread sheet to code for those defined as a 'bully', 'victim', 'bully-victim' or 'not involved' Participants were then coded with a score of '1' as a 'victim' if they scored above the mean plus one standard deviation on the victim scale and scored below the sample mean plus one standard deviation on the 'bully' scale. They were defined as 'bully' if they were above the mean plus one standard deviation on the bully scale, but not the victim scale. They were coded as a 'bully-victim' if they were above the mean plus one standard deviation on both the victim

and bully scales, and 'not involved' if they had not been assigned to the previous three groups. The scales measuring bully roles are detailed below in Table 9.

Table 9. Which scales measured different bully roles

Role	Measured by scale number*
Victim	4
Bully	5
Bully-Victim	5 and 4
Not involved	5 and 4

*Scales can be found in Appendix 9

In order to identify associations between membership within each behavioural cluster and involvement in bullying a 3x4 Chi-square analyses was conducted to identify significant associations between cluster membership, and involvement in the different bullying roles. Where significant associations were found follow up Chi-square analyses were conducted to break down the patterns of association in terms of group differences.

6.3.4 Procedure

The data were collected via a paper based questionnaire administered by teachers within scheduled lesson time. Teachers were offered the choice for the researcher to come into their classes at a scheduled time or if they preferred to administer the questionnaire themselves. In all cases the teachers asked to administer the questionnaire themselves as this would allow them the flexibility to carry out the activity at the most suitable time for them. Before the final version of

the questionnaire was printed, the head teacher and a class teacher at one of the primary schools were asked to read through the questionnaire in order to ensure that the language was appropriate for the youngest participants and to ensure that none of the questions, in their opinion were ambiguous.

The questionnaires were completed within the participants' timetabled school classes. Copies of the participant information sheet, consent form, and debrief forms can be found in Appendices 10 and 11. The questionnaire was introduced and supervised by the class teachers. The task of completing the questionnaire was explained verbally to the participants by the teacher reading the participant information sheet (see Appendix 10). Participants were informed of the purpose of the task, benefits of them taking part and possible negative consequences. They were also informed of their right to withdraw at any point during the completion of the task and up to 10 days after completion. This information was also provided to the participants in a written format with the addition of a consent information form (see Appendix 10). The participants were then asked to complete the consent form and once consent was gained the questionnaire was then distributed (see Appendix 9). They were instructed to complete the questionnaire independently and to raise their hand once they had completed the task. The teacher would then collect the questionnaires and provide them with a worksheet (set by the teacher). The class teachers decided upon the most suitable time limit for completing the questionnaire based upon the age, abilities and time constraints of their class. However, they were instructed that a minimum of a 45 minute time period was to

be allocated for participants to complete the activity. This time period was based upon the advice of the class teacher of the first class to be tested (who were also the youngest participants). For those who indicated that they would need to complete the questionnaire over two separate sessions, A4 sized envelopes were provided for storage between sessions. The procedure within these instances was for each participant to write their name on the front of an envelope and to seal their questionnaire into it to be stored between sessions. The teachers were asked to keep the questionnaires in a safe, locked place where they would not be disturbed. Once completed the teachers were asked to collect in the questionnaires, to distribute two debrief forms (parental, see Appendix 12 and participant, see Appendix 11) and to instruct the participants to give the parental debrief form to their parents or carers. The teachers were then asked to return the questionnaires to the researcher's contact at each school to be stored securely until they were collected by the researcher.

6.4 Results

6.4.1 Data Screening

Once the data were input into SPSS and before the data were analysed, the data set was screened for missing data and input errors.

Missing data-

Missing data were accounted for by inserting individual scores with mean scores for that item obtained from the total sample. For the RPAQ, (Raine et al.

2006) a maximum of 3 scores were inserted per scale, participants with more than 3 missing scores on any one scale were removed from the main analysis.

However, due to the small number of items in the PVBS (Maynard and Joseph 2000) only one score per scale was inserted if this was necessary.

Data input errors-

Data input errors were checked by ensuring that no individual raw score exceeded the parameters of the scale options and reference back to the original questionnaire was made to correct any errors.

6.4.2 Data analysis

Following an approach similar to that conducted by the studies by Crapanzano et al (2010) and Mayberry and Espelage (2006), the raw scores were standardised and converted to z-scores before conducting a number of K-means cluster analyses imposing 2, 3, 4 and 5 factor cluster solutions. The two factor solution identified a group High and a group Low in both types of behaviour. The three factor solution identified by a group characterised by high and a group low in both types of behaviour and a group moderate-high in reactive and low to moderate in proactive aggression. The four factor solution was characterised by a Low and High groups, a group displaying high levels of reactive and moderate proactive aggression and a group characterised by moderate reactive and low proactive aggression.

The similarity of the behavioural pattern observed in the three factor model to that of past research (e.g. Crapanzano et al 2010; Stickle et al 2012) suggests support for a three cluster solution. To confirm this the method employed by Stickle (2012) in which the R^2 statistics for the four cluster solutions were explored to further support the three factor solution. The R^2 showed a modest difference in variance between the 2 ($R^2 = .67$) and three ($R^2 = .80$) factor solution, a substantial decrease between the 3 and 4 ($R^2 = .42$) solutions and again, only a moderate difference between the 4 and 5 cluster solutions ($R^2 = .50$). This supports the identification of a three factor solution. Further analyses of the three groups were then conducted to support the distinction between the three groups and thus further support the validity of a three cluster solution.

6.4.3 Analysis of differences between behavioural clusters

As hypothesised, distinct behavioural groups emerged. As can be seen in Table 6.3., three statistically distinct groups were identified. In each group, participants indicated displaying more frequent use of reactive aggression compared to proactive aggression (as can be seen within Table 10). A further similarity across the behavioural groups was that as the frequency of reported reactive aggression increased, so did the reported levels of proactive aggression. The demographic characteristics of the clusters are described below in Table 11.

Table 10. Summary of Median group scores and standard deviations for the sample and each cluster

Aggression Type	Sample (n=658) Males (n=303) Females (n=355) Median (SD)	Low (n=376) Males (n=152) Females (n=224) Median (SD)	Moderate-high reactive, moderate proactive(n=226) Males (n=118) Females (n=108) Median (SD)	High (n=56) Males (n=33) Females (n=23) Median (SD)	Cluster effect
Reactive	11 (8.59)	7 (3.7)	18 (5.51)	28 (6.21)	F(2,655)= 789.96***
Proactive	2 (4.41)	0 (1.33)	4 (2.7)	13 (4.78)	F (2,655)= 844.34***

*** p<0.001

A Kolmogorov-Smirnov analysis of the behavioural clusters revealed that there was non-normal distribution of participant data across the main three behavioural cluster groups. As such non-parametric tests were employed to analyse differences and associations in raw group scores across the groups within further analyses.

To identify how the behavioural groups were differentiated by the reported use of reactive and proactive aggression Kruskal-Wallis analysis was conducted and revealed significant differences in reactive aggression group scores

($H(2)=470.35$, $p<.001$) and proactive aggression ($H(2)= 377.47$, $p<.001$) between the three behavioural cluster groups.

Post-hoc Mann-Whitney analyses revealed that those within the Medium-high frequency reactive and Low-moderate proactive aggression cluster (Cluster 2) scored significantly higher on measures of reactive aggression ($U= 1553$, $r=-.81$) and proactive aggression ($U= 9869.5$, $r=-.66$) compared to those in the Low frequency cluster (Cluster 1). Those within the Moderate-high reactive and Low-moderate proactive aggression cluster (Cluster 2) scored significantly lower on measures of reactive aggression ($U= 1719.2$, $r=-.5$) and proactive aggression ($U= 156.5$, $r=-.67$) compared to those within the High frequency cluster (Cluster 3) and those within the High frequency (Cluster 3) scored significantly higher on measures of reactive aggression ($U= 7.5$, $r=-.58$) and proactive aggression compared to those within the Low frequency cluster (Cluster 1) ($U= 2$, $r=-.62$).

6.4.4 Demographic differences between the behavioural clusters

The second research question of the chapter aimed to investigate demographic differences between the behavioural groups. The details of the distribution of males and females and the age groups can be seen in Table 11. Specifically, it was hypothesised that females would report using reactive aggression and proactive aggression less frequently than males and that those within the 11-12 year olds school sample would report using these behaviours more frequently than those within the primary school and 13-14 year old sample.

To explore these questions a log linear analysis was conducted to investigate the effects of gender and age as predictors of membership in the three clusters. The three-way log linear analysis produced a final model which did not retain the highest order effects (cluster x gender x age group). The removal of the three way higher order effects did not significantly affect the model (if deleted $\chi^2(4) = 3.190, p > .05 (p = .527)$). However, two lower-order effects emerged as significant from the model, gender x cluster ($\chi^2(2) = 12.361, p < .05 (.002)$) and age group x cluster ($\chi^2(4) = 13.497, p < .05 (.009)$). The likelihood ratio of the final model was $\chi^2(6) = 5.027$ Identifying that it is good fit of the data. To identify where these differences lie, Field (2006) suggests conducting Chi-square analyses. The findings of these analyses can be found in the next section.

Table 11. A summary of the distribution of each demographic group across the 3 clusters and the results of the chi-square analyses of association

		Cluster 1	Cluster 2	Cluster 3
		Low both	Moderate-high reactive, moderate proactive	High both
Gender	% Males (n)	40.4 (152)	52.2 (118)	10.9 (33)
	% Females (n)	59.6 (224)	47.8 (108)	41.1 (23)
School level	% Primary School (n)	65.8 (125)	29.5 (56)	4.7 (9)
	% Secondary 11-12 years (n)	57.3 (106)	28.8 (65)	7.6 (14)
	% Secondary 13-14 years (n)	51.2 (145)	37.1 (105)	11.7 (33)
	% Total of Sample (n)	57.1 (376)	34.3 (226)	8.5 (56)

Post-hoc analyses of the loglinear analysis

Gender and cluster membership

As Hypothesised, Table 12. shows that the cluster groups differed significantly in the percentage of males and females in each. To explore where these significant differences were subsequent, post-hoc 2x2 chi-square analyses were. A Bonferoni correction of $p < .018$ was applied to avoid making a Type I error in interpreting the significance of the data. As can be seen in Table 12 the only

difference was a significantly greater percentage of females compared to males in the Low aggression cluster.

Table 12. Associations between gender and cluster membership

Cluster	χ^2	df	C	Odds ratio	Greater association
1. Low aggression	11.166**	1	.130	0.76	Females
2. Medium reactive, low proactive	5.264	1	.089	-	-
3. Extremely high reactive, medium proactive	4.087	1	.079	-	-

* $p < .018$; ** $p < .005$; *** $p < .001$

Association between age group and cluster membership-

For each cluster a 2x3 chi-square analysis was conducted to identify whether any age related differences within each clusters. Of these analyses only one identified a significant association between an age group and membership in a Cluster. This was found in Cluster 1 (Low frequency). ($\chi^2(2) = 9.833$, $p < .05$ ($p = .007$)). There were no significant differences between the age groups and membership in Cluster 2 ($\chi^2(2) = 3.005$, $p > .05$ ($p = .223$)), nor Cluster 3 ($\chi^2(2) = 7.293$, $p > .05$ ($p = .05$)).

Further 2x2 Chi-square analyses were conducted to identify where the age related associations within Cluster 1 were. As can be seen within Table 13, the analyses revealed that primary school students were more likely to be members of the Low frequency cluster (Cluster 1) compared to the 13-14 year olds. However the primary school sample were no more likely than the 11-12 year olds and the

11-12 year olds were no more likely than the 13-14 year olds to be members of Cluster 1.

Table 13. Age group associations with membership in Cluster 1

Cluster	χ^2	df	C	Odds ratio	Greater % in cluster
Primary x 11-12's	2.858	1	.087		-
Primary x 13-14's	9.827**	1	.144	1.83	Primary
11-12's x 13-14's	1.652	1	.059		-

* $p < .018$
** $p < .005$

Summary of the behavioural and demographic profile of clusters-

Distinct behavioural groups emerged based upon the participants' self-reported use of reactive and proactive aggression. As hypothesised, a group characterised by the combined and frequent use of reactive and proactive aggression was identified. The hypothesis that females would report using reactive and proactive aggression less frequently than males was supported by the over representation of females within the Low aggression cluster (Cluster 1). However, this hypothesis was not supported by the comparative numbers of males and females in the High aggression cluster. What was also not supported was the hypothesis that the 11-12 year olds would report the use of more frequent acts of aggressive behaviours comparative to the primary school sample. Rather, the only age related difference found was a greater percentage of primary school children compared to 13-14 year olds in the Low aggression cluster. It should however, be highlighted that there were only a small number of participants in the High aggression cluster. A summary of each cluster will now be presented.

Cluster 1: Low frequency reactive and proactive aggression

This cluster was characterised by lower than the sample median scores on both reactive and proactive aggression and characterised the reported behaviour of 57.1 % of the participant sample. There were a significantly greater percentage of females within this cluster in comparison to males (59.6% females and 40.4% males). Furthermore, significant age group associations emerged, revealing that primary school children (65.8% of whom were members of this cluster) were more likely to be members of this cluster compared to the 13-14 year olds (51% of whom were members of this cluster), but were no more likely than the 11-12 year olds to be members of this cluster (57.3% of whom were members of this cluster).

Cluster 2: Moderate-high frequency reactive aggression and low-moderate proactive aggression.

This cluster was characterised by moderate-high frequency use of reactive aggression and low-moderate frequency of self-reported proactive aggression. This cluster characterised the behaviour of 34.4% of the participant sample. Males (38.9% of whom were members of this cluster) were no more likely to be members of this cluster than females (30.4% of whom were members of this cluster). There were no significant age related differences within this cluster: 29.5% of the primary, 35.1% of the 11-12's and 37.1% of the 13-14 year olds were members of this cluster.

Cluster 3: High frequency reactive and proactive aggression.

This cluster was characterised by extremely high reported reactive and proactive aggression and characterised the behaviour of 8.5 % of the participant sample. 10.9% of the males and 6.5% of the females were members of this cluster. 4.7% of the primary, 7.6% of the 11-12's and 11.7% of the 13-14 year olds were members of this cluster. There were no gender nor age related differences within this cluster.

6.4.5 Bullying and associations cluster membership

The third research question aimed to investigate differences in involvement in bullying between the behavioural clusters. Table 14 displays the demographic characteristics of the bullying groups. Table 15. displays the distribution of the bully roles in each cluster. No specific hypotheses were made regarding the associations between bully role and cluster membership as the behavioural clusters had not been identified until now. Four Chi-square analyses were conducted to identify associations between involvement in bullying and the behavioural clusters. To avoid type I error in interpreting the data, a Bonferoni correction was made to $p < .018$.

Table 14. Differences in involvement in bullying across the gender and age groups

		Not Involved	Bully	Victim	Bully-Victim
Gender	% Males (n)	44 (64)	47.1 (40)	46.9 (68)	46.6 (130)
	% Females (n)	55.9 (81)	52.9 (45)	53.1 (77)	53.4 (149)
School level	% Primary School (n)	37.9 (55)	17.6 (15)	33.8 (49)	25.8 (72)
	% Secondary 11-12 years (n)	22.1 (32)	32.9 (28)	27.6 (40)	30.8 (86)
	% Secondary 13-14 years (n)	40 (58)	49.4 (42)	38.6 (56)	43.4 (121)
Sample total		22.17 (145)	13 (85)	22.17 (145)	42.66 (279)

Table 15. Differences in involvement in bullying across the behavioural cluster groups

	Cluster 1 Low aggression	Cluster 2 Moderate-high reactive, low-moderate proactive aggression	Cluster 3 High aggression	χ^2 (df)	C
% Not Involved (n)	89.4 (336)	61.9 (140)	31.4 (16)	114.692*** (2)	.419
% Bully (n)	1.9 (7)	12.8 (29)	33.3 (17)	69.951*** (2)	.327
% Victim (n)	8.2 (31)	13.3 (30)	9.8 (5)	3.936 (2)	.078
% Bully-victim (n)	.05 (2)	11.9 (27)	25.5 (13)	63.951***	.313

* $p < .05$; ** $p < .005$; *** $p < .001$

As can be seen within Table 14, four 2x3 Chi-square analyses were conducted (assignment to bully role yes/no x cluster membership). These identified significant associations between cluster membership and the roles of not being involved in bullying, being a bully and a bully-victim. However, no significant association was identified between being a victim and cluster membership. Further post-hoc chi-square analyses were conducted to identify where these associations were (i.e. were there significant differences between all three clusters or just between two of them) and are detailed within Table 15 and detailed in the summary section. In order to avoid a type I error in interpreting the results a Bonferroni correction of $p < .018$ was applied to the post-hoc tests investigating where the significant associations between involvement in bullying and cluster membership were.

Table 16. Significance of associations between cluster membership and bully status

Status by type of behaviour	Low x Moderate-high reactive, low-moderate proactive				Low x High				Moderate-high reactive, low-moderate proactive x High			
	χ^2	C	Odds ratio	Higher %	χ^2	C	Odds ratio	Higher %	χ^2	C	Odds ratio	Association with cluster
Bullies	30.213***	.224	1.5	Mod	83.851***	.443	5.1	High	12.629***	.214	3.4	High
Bully/victim	40.114***	.258	27.2	Mod	82.533***	.440	68.4	High	6.177***	.149	2.515	High
Not involved	64.104***	.326	5.159	Low	104.298***	.494	18.381	Low	15.811***	.239	3.562	Mod

* $p < .05$;

** $p < .005$;

*** $p < .001$

Summary of associations between bully role and cluster membership-

As summarised within Table 17. the High frequency cluster contained the highest percentage of bully-victims and bullies in comparison to the other two clusters. The Low Frequency cluster contained the highest percentage of those indicating Not being Involved.

Table 17. A summary of the ranked order of the use of Reactive and Proactive Aggression and prevalence of the different Bully Roles within each cluster.

	Low aggression	Moderate-high reactive, low-moderate proactive aggression	High aggression
Bully	1	2	3
Victim	1	3	2
Bully-Victim	1	2	3
Not involved	3	2	1

1= lowest percentage, 3= highest percentage

Cluster 1: Low aggression cluster

Compared to both the other two behavioural clusters, this cluster contained a significantly higher percentage of individuals reporting being not involved in bullying (89.4% of cluster) and a significantly lower percentage of those indicating being a bully (1.9% of cluster) and a bully-victim (.05% of cluster). However, those in this cluster were no more likely than the other two clusters to be victims of bullying (8.2% of cluster).

Cluster 2: Moderate- high reactive, low-moderate proactive aggression

This cluster contained a significantly higher percentage of those who had indicated being a bully (12.8% of cluster) or bully-victim (11.9% of cluster)

compared to those within the Low frequency cluster. However, they were no more likely than the other two clusters to be a victim of bullying and contained a significantly lower percentage of bullies and bully-victims than the high aggression cluster.

Cluster 3: High aggression cluster

This cluster contained a significantly higher percentage of members indicating that they were bully-victims (25.5% of cluster) and bullies (33.3% of cluster) compared to the other two clusters. However members of this cluster were no more or less likely to be victims of bullying compared to the other two clusters.

6.5 Discussion

The current chapter aimed to identify a behavioural typology of the use of reactive and proactive aggression across a sample of 9-14 year old children and adolescents and explore this typology by investigating age and gender differences between the groups and differences in their involvement in bullying. The following section will firstly, detail the findings relating to the research aims by presenting an overview of each behavioural cluster found in the current research and relating them to those which have been found previously by others.

The first research question aimed to investigate whether children who report displaying reactive and proactive aggression form distinct behavioural sub-groups. As hypothesised, cluster analysis, which grouped individuals based

on similar behavioural characteristics, identified three distinct behavioural clusters. Each behavioural cluster was characterised by the combined use, or below sample median use of both reactive and proactive aggression, with all groups reporting a higher frequency of the use of reactive compared to proactive aggression. The findings of the current research are similar to those of past studies in finding a higher prevalence of reactive behaviours comparative to proactive across the sample, a group who report frequently utilising both reactive and proactive aggression and a group reporting very low frequency of the use of both types of behaviours, if using these behaviours at all (Chan, Fung and Gerstein, 2013; Crapanzano, Frick and Terranova 2010; Mayberry & Espelage 2007; Stickle, Martin and Thomas 2012). However, past studies have also generally consistently identified the predominant use of one type of behaviour in *different* behavioural groups; with one group characterised by the predominant use of reactive aggression and/or proactive aggression (Crapanzano 2010; Mayberry and Espelage 2007; Stickle et al. 2012). The current study identified a third group characterised, as has been found before by the use of reactive aggression (Crapanzano et al. 2010; Mayberry and Espelage 2007; Stickle et al. 2012), but unlike these past studies, this group were also found to display low-moderate use of proactive aggression. This group is only reflective of one other study in which males and females and types of aggression were differentiated. Crapanzano et al. (2010) found that similarly to the current findings, when investigating the pattern of the use of relational aggression in males a group reporting low frequency in both reactive and proactive aggression, a group reporting moderate levels of both and a group reporting frequent use of both. Interestingly however, the current study with its

similar pattern did not explicitly measure relational forms of aggression. The implications of this finding will be discussed in Chapter 9, Sections 9.4.1. and 9.5.1.

The second and third research questions aimed to investigate demographic differences in cluster membership and whether involvement in bullying differed between the groups. Below, the findings of the analyses to explore these characteristics are presented within a description of each behavioural group. The theoretical and practical implication of the findings are discussed in Chapter 9, Sections 9.4.2. and 9.5.1.

6.5.1 Characteristics of the three behavioural clusters

Cluster 1: Low frequency reactive and proactive aggression

This cluster was characterised by a lower than average (sample median) use of both reactive and proactive aggression. Of the three main behavioural groups, this cluster characterised the behaviour of greatest proportion of the participant sample (57.1%). Significant gender and school level associations were found with membership within this cluster. Females were more likely than males to be members of this cluster; supporting the second hypothesis which predicted that females would utilise reactive aggression and proactive violence less frequently than males. This supports the consistent finding across the research literature that males utilise these behaviours more frequently than females (e.g. Mayberry and Espelage 2007; Salmivalli and Niemäen 2002). Compared to those within the 13-14 year old group the, primary school children were more likely to be members of this group. Although supporting the findings

of past research that suggests an increase in the use of negative interpersonal behaviours after the school transition from primary to secondary school (Forret et al. 2013; Pellegrini and Long 2002), based on past research we would expect to find that there was a significant difference at the time of school transition. Rather, in the current sample those in the group who most recently took the transition from Primary to Secondary school (the 11-12 year olds) were no more likely than the primary school participants to be members of this cluster. Therefore, rather than there being an increase immediately after the school transition, in the current sample, both reactive and proactive aggression was most frequent in those nearing the transition from secondary to high school. Compared to both the High- Moderate reactive, low-moderate proactive and High frequency clusters, the Low frequency cluster contained a significantly higher percentage of individuals reporting not being involved and being the victim of bullying (89.4% of cluster).

Cluster 2: Moderate frequency reactive, low- moderate proactive aggression

The second Cluster characterised the behaviour of approximately one third of the sample (34.3%) and was defined by above sample median scores for reactive aggression and low-moderate levels of reported proactive aggression. An investigation of demographic associations with membership within this cluster revealed neither significant school level, nor gender differences. Comparative to the Low frequency cluster, this cluster contained a significantly higher percentage of members who had indicated being a bully-victim (11.9% of cluster) or a bully (12.8% of cluster).

Cluster 3: High frequency reactive, moderate proactive aggression

The third Cluster was defined by high frequency of the use of both reactive and proactive aggression and characterised the behaviour of only 8.5% of the participant of the sample. No demographic differences were found within this cluster. As such this does not contribute to supporting the hypotheses that males would display both reactive and proactive aggression more frequently than females and that there would be an increase in the use of aggressive behaviour at around the time of the school transition from primary to secondary school. As such the findings of the current research would suggest that although females are more likely than males to display infrequent acts of aggression, females are as likely as males to display frequent acts of aggression. This cluster contained the highest percentage of members indicating that they were bullies (33.3% of cluster) or bully-victims in comparison to the other two clusters; with 25.5% of its members reporting bullying others and also being the victim of bullying. This finding further supports past research that suggests the high prevalence of victimisation and perpetration of bullying behaviours involving those who display reactive forms of aggression (Canodeca, Terwogt and Schuengel 2002; Salmivalli and Helteenvuori 2007). It also supports the findings of the two studies that have investigated the use of reactive and proactive aggression and associations with being the perpetrator of bullying (Camodeca et al. 2002; Crapenzano et al. 2010).

6.6 Conclusion

This chapter explored a behavioural typology of the use of reactive and proactive aggression and gender, age and bully role differences with each cluster. Three main behavioural groups were identified. The distinction between the three behavioural groups was investigated by exploring gender and age group differences between the members of the clusters. The only gender and age related differences were found in the low aggression cluster. There were a greater proportion of females in the Low frequency cluster compared to males and consisted of a greater proportion of primary school children compared to the 13-14 year old sample. The exploration of involvement in bullying and membership in the three behavioural groups revealed that the Low frequency group were significantly more likely to not be involved in bullying comparative to the other two groups. The High frequency aggression cluster was significantly more likely than the other two clusters to be defined as bullies and bully-victims. Finally, the Moderate-high reactive and low-moderate proactive aggression cluster were significantly more likely than the low, but significantly less likely than the High aggression cluster to be bullies and bully-victims. None of the cluster groups were more likely than the others to be defined as victims of bullying. The findings of the current research have important implications upon our understanding of the development of these behavioural repertoires as the findings of the current research suggest that the development of reactive and proactive aggression may not be as disassociated as previous research would suggest. The next chapter further explored these behavioural groups by investigating associations between membership within these behavioural groups and socio-cognitive risk factors known to be associated with proactive

aggression but not previously explored within the context of reactive aggression.

7.0 A quantitative investigation of differences in self-reported empathy and level of acceptance of reactive and proactive aggression; validating the behavioural typology of reactive and proactive aggression

7.1 Introduction

In Chapter 6 three behavioural groups of 9-14 year olds were identified based on their use of reactive and proactive aggression. Similarly to past research, one group was characterised by their infrequent use of reactive and proactive aggression and one by their frequent use of both. Unlike previous studies which have employed a person-centred approach to investigate the use of reactive and proactive aggression and have identified only one behavioural group characterised by the use of both types of behaviour (Crapanzano et al. 2010; Fossati et al. 2010; Fung, Raine and Gao 2009; Mayberry and Espelage 2007; Stickle et al. 2012) a third group was identified who displayed moderate-high levels of reactive and low-moderate levels of proactive aggression. Past research has identified that those who utilise aggressive behaviours most frequently also display the most severe dysfunctioning on cognitive and emotional risk factors associated with aggressive behaviour (Crapanzano 2010; Mayberry and Espelage 2007; Stickle et al. 2012). In Chapter 5 (Phase 1), when asked to describe their understanding of terminology relating to types of reactive and proactive aggression, children and adolescents described aspects of social-cognition that inhibited or promoted the use of negative behaviours towards peers. These characterised risk factors at an individual level (the ability to predict and reflect upon the emotions of others) and at a micro system level

(a level of acceptance for aggressive behaviour when there was the perception that the perpetrator lacked control); both of which reflect aspects of social-cognition. To investigate these risk factors, the current chapter explored differences in group scores on self-reported measures of empathy and acceptance of reactive and proactive aggression across the three behavioural groups. In doing this, the analyses presented in this chapter addressed the fifth research question of the thesis of, 'are there significant differences in the self-reported ability to empathise and acceptance of reactive and proactive aggression between the behavioural groups'?

A review of the research literature that has investigated the role of empathy and acceptance of behaviour in the use of reactive and proactive aggression will firstly be presented. This is followed by a report of the findings of the data collected during the second Phase of data collection which investigated differences in empathy and the reported acceptance of the use of reactive and proactive aggression between the three behavioural groups.

7.2 Background

Proactive aggression and the continuation of reactive forms of aggression are inherently social phenomena (Craig, Pepler and Atlas 2000); around 85% of negative interactions occur in the presence of others (Guerra, Williams and Sadek 2011). As detailed in Chapter 2, an individual's behaviour is a culmination of individual risk factors and social influence of the environment within which they develop (Bronfenbrenner 1979). It is therefore important to investigate how an individual's cognitions interact with the environment within

which behaviour is enacted. This will place educators in a more advantageous position to identify the risk factors which gave rise to the use/display of reactive and proactive aggression. Identifying and re-addressing cognitions as identified within both Bronfenbrenner's (1979) Ecological Systems model and Social Information Processing theory (Crick and Dodge 1994; Huesmann 1988; See Chapter 2) shows promise as the basis for effective behavioural change interventions within schools. Specifically, these models identify how individual cognitive risk factors which promote the use of negative behaviours are learned, but importantly for the reduction of the use of such behaviours within schools, they also suggest how changes within the environment can help children to readdress the cognitions which promote the use of reactively and proactively aggressive behaviours. Therefore, the findings of this chapter will contribute towards our understanding of risk factors promoting the combined use of reactive and proactive aggression within schools. In turn this will enable educators and psychologists to construct effective behavioural change interventions in the future.

7.2.1 The role of empathy in inhibiting the use of negative interpersonal behaviours

In Chapter 5 (Phase 1), children perceived that the ability to take the perspective of others acted as an inhibitory mechanism to stop them from displaying harmful behaviours towards others. This perception supports past research literature which suggests that the ability to empathise with others is associated with both inhibiting the use of negative behaviours towards peers' behaviours and promoting defending behaviour (e.g. Arsenio et al. 2009; Crick

and Dodge 1996; Gini 2006; Scarpa et al. 2010). Supportive of this perception, The Violence Inhibition Mechanism Model (Blair 1995) suggests that humans possess the propensity to identify non-verbal signals of distress in others (such as fearful facial expressions). This distress, when witnessed, should activate a withdrawal response in those who are causing the distress. Although no standardised definition of empathy has been constructed, empathy is generally defined and differentiated across the academic literature as consisting of a cognitive and affective component (e.g. Baron-Cohen et al. 2004; Cohen and Strayer 1996; Davis 1994; Jolliffe and Farrington 2006). A definition, which reflects both of these elements, is that by Cohen and Strayer (1996), which defines empathy as, 'the ability to identify, predict and vicariously experience another's emotional state' (Cohen and Strayer 1996). Cognitive empathy refers to an individuals' ability to identify and predict the emotions of another individual in a given situation (for example, understanding that if someone has their toy taken away from them they will feel sad; Jolliffe and Farrington 2006a). Whereas, affective empathy, builds upon the ability to cognitively empathise with the addition of a change in the observer's emotional state to reflect the emotion they believe the other is experiencing; for example, experiencing fear upon witnessing another individual that is perceived to be scared (Espelage, Mebane and Adams 2004; Gini 2006). Cognitive empathy is therefore considered as 'knowledge' or a skill that can be built upon or improved as it involves actively learning to identify and predict the emotions of others (Jolliffe and Farrington 2006a). Affective empathy however, which involves the addition of a shared emotional response, should be considered a trait as the vicarious

experience of another individual's emotion is an unconscious reactive response to witnessing the emotion of another individual (Jolliffe and Farrington, 2006a).

If differences in cognitive and affective empathy are found between different subtypes of reactively and proactively aggressive children and adolescents, this will have profound implications for the way in which anti-aggression education should be delivered within schools. The role of empathy has been investigated in relation to both the use of proactive aggression, and to a much lesser extent, reactive aggression (Mayberry and Espelage 2007). However, the current chapter explores differences in self-reported empathy scores between groups characterised by the combined use of both reactive and proactive types of behaviours. A review of the literature regarding the role of affective and cognitive empathy in inhibiting and promoting the use of proactive and reactive aggression will now be presented. This will be followed by a discussion of the implications for behaviour change based upon the unique characteristics of the behavioural groups identified in Chapter 6.

The role of affective empathy in the use of proactive and reactive aggression

Proactive aggression-

The ability to affectively empathise is postulated to act as an inhibitory mechanism against the use of proactively aggressive interpersonal behaviour (e.g. Mayberry and Espelage 2007; Pouw et al. 2013). It is suggested that when an individual who can affectively empathise causes harm to others, they vicariously experience the negative emotions as experienced by the recipient of

their actions (Jolliffe and Farrington 2006a). This shared negative experience of emotion acts to 'punish' the perpetrator, and consequently they are likely to avoid engaging in such behaviours in the future. Research has found that proactively aggressive children are more likely to have a reduced ability to affectively empathise and therefore do not experience the negative affect associated with inflicting pain on to others (Dadds et al. 2008; Jolliffe and Farrington 2006; 2011; Mayberry and Espelage 2007; Warden and Mackinnon 2003). Although the majority of research shows that higher levels of affective empathy are negatively associated with the use of aggression towards peers (e.g. Arsenio et al. 2009; Barchia and Bussey 2011; Crick and Dodge 1996; Gini 2006; Gini, Pozzoli and Hauser 2011; Jolliffe and Farrington 2006; Lovett and Sheffield 2007; Mayberry and Espelage 2006; Scarpa et al. 2010), a minority of studies either refute (Larden et al. 2006; Pouw et al. 2013) or only partially support this assertion. For example studies by Caravita and Blasio (2009) and Espelage, Melbane and Adams (2004) found an association between low affective empathy and the use of aggression only to be the case within their samples of males; this association was not present across their samples of females. This finding is not surprising however, given research suggesting that empathy is likely more biologically rooted in females than males. In a study by Schulte-Ruther et al. (2008) measures of brain activation during an activity requiring participants to evaluate facial expressions of others (indicative of the ability to identify the emotions of others), showed activation in the right inferior frontal cortex of females; whilst no differential activation was observed in males. This area of the brain, which contains emotional 'mirror neurons', is associated with the processing of emotions and subsequent arousal. Furthermore, studies

have found reduced empathic behaviour (facial mimicry) in females when administered a dose of testosterone; a hormone found in larger quantities in males compared to females (Hermans, Putman and van Honk 2006). Taken together studies such as these suggest that females are biologically 'programmed' to identify emotions in others. Therefore, factors other than a reduced ability to affectively empathise with others are likely to influence the use of proactively aggressive behaviour in females (Hermans, Putman and van Honk 2006). The variation in findings across studies investigating the role of affective empathy is also likely to be, in part, a result of the different definitions and measures of empathy employed across the research literature; for a detailed discussion of these differences see Section 7.2.1.

Reactive Aggression

Relatively few studies have investigated the association between reactive forms of aggression and affective empathy (Mayberry and Espelage 2007). As detailed previously, reactive forms of aggression are characterised as a reaction to an emotive situation and are associated with hostile attribution biases within the early stages of socio-cognitive processing (Crick and Dodge 1994; Huesmann 1998. See Chapter 2). As such, reactive aggression is theorised to be enacted before the later conscious processing of social information such as considering the consequences of one's actions. Therefore, based on the Social Information Processing models of behaviour (Crick and Dodge 1994; Huesmann 1988), the role of empathy would not act as an inhibitory mechanism for the use of truly reactive forms of aggressive behaviour. However, research suggests that those who engage in reactive aggression do

so partially because of a reduced ability to understand and regulate their own emotions (Eisenberg 2000). Being unable to understand and regulate their own emotions means that they are likely to have a reduced ability to understand and furthermore vicariously experience the emotions of others (Eisenberg 2000). This is reflected in the findings of studies such as that by Pouw et al. (2013), who observed a negative association between the use of reactive aggression and scores on a measure of affective empathy. Therefore, although those who display reactively aggressive behaviours display low levels of affective empathy on measures of this ability, this may not be a causal factor in their use of this type of behaviour.

Of the studies identifying behavioural typologies of the use of reactive and proactive aggression in child and adolescent samples, only one explored the differences in the ability to empathise between the behavioural groups. Mayberry and Espelage (2007) employed two scales to measure both cognitive and affective empathy. The first was an itemised scale (the Interpersonal Reactivity Index, Davis 1983). The second consisted of three vignettes describing an emotive situation, which then required participants to reflect upon how the person in the vignette would feel and how they themselves feel in response to the scenario. Mayberry and Espelage (2007) identified four distinct behavioural groups characterised by the predominant use of reactive aggression, the predominant use of proactive aggression, a group who used neither, and a group who used both (this group reported the most frequent use of both types of behaviour). They found that the two groups characterised by the predominant use of reactive aggression and the group using mostly

proactive aggression did not differ significantly in their reported ability to cognitively or affectively empathise. The uninvolved group scored significantly higher on both measures of empathy compared to the other three groups and the combined reactive and proactive group scored significantly lower on both measures of empathy.

The current study therefore aimed to contribute to the research literature by investigating group scores in affective empathy between the three behavioural groups identified in the previous chapter. In relation to the current sample of participants, the finding that 25.5% of those within the High frequency reactive and proactive aggression cluster were defined as bully-victims (see Chapter 6, section 6.4.5.) may be indicative that this sub-group of individuals lack or have a reduced ability to affectively empathise with others. Their experiences of being the victim of bullying would suggest that they understand how it feels to be the victim of an attack (as it has happened to them). However, their role as bullies indicates that they may not experience the emotion of others, or are able to consciously control their appraisal of others' emotional responses, when they are perpetrating violent behaviours. Theoretically, if they genuinely shared the negative affective state of their victims, this should deter them from engaging in such behaviours in order to avoid experiencing the negative affect as experienced by the victim (Joliffe and Farrington 2006). Based on the findings of past studies investigating affective empathy and the use of aggression (e.g. Mayberry and Espelage 2007) it was hypothesised that across the three behavioural groups, as the group score of reactive and

proactive aggression increased, the group score in affective empathy would decrease.

The role of cognitive empathy in the use of proactive and reactive aggression

Proactive aggression-

The role of cognitive empathy in the function and inhibition of the use of negative behaviours towards peers is unclear. Unlike affective empathy, which is characterised by the vicarious experience of another's emotions, the ability to cognitively empathise with others lacks a vicarious reflective emotional experience to the victim (Jolliffe and Farrington 2006a). In non-clinical populations the role of being able to understand how another person would feel in a given situation is only likely to act as an inhibitory mechanism against the use of negative behaviours if it is accompanied by a vicarious emotional response. A number of studies investigating the association between cognitive empathy and proactive aggression have found no significant differences between proactively aggressive individuals' scores on measures of cognitive empathy compared to non-aggressive individuals (e.g. Batanova and Lukas 2011; Espelage et al 2004; Jolliffe and Farrington 2006; 2011; Murray-Close et al. 2006; Pouw et al. 2013). Others have found that proactively aggressive individuals display lower scores on measures of cognitive empathy compared to individuals who do not engage in the use of such behaviours (e.g. Endresen and Olweus 2002; Espelage et al. 2004; Mayberry and Espelage 2007; Shechtman 2002). Another group of researchers have found that proactively aggressive individuals display significantly higher scores on measures of

cognitive empathy (e.g. Caravita and Blasio 2009; Yeo et al. 2011). This highlights an inconsistency within our current understanding of the function of cognitive empathy in the use of proactive aggression. This is likely to be accounted for by research differentiating different types of proactive aggressive and bullying and the methods employed to operationalise these types of behaviours.

Research which has differentiated different types of aggressive behaviour and different roles played within aggressive interactions have found group differences. Research supports that those who utilise relational forms of proactive aggression are likely to hold a good or even superior understanding of social relationships and of how others would feel in a given situation as they undermine, belittle and gain power over their victims without directly confronting them (e.g. Onishi and Yoshida 2010). This has been supported by studies such as that by Bjorkqvist et al. (2000), who identified that adolescents who use relational forms of proactive aggression scored higher on a measure of cognitive empathy compared to those who predominantly reported using physical forms of proactive aggression. Along a different but similar construct Sutton, Smith and Swettenham (1999b) found group differences in the scores of ring leader bullies, followers and victims of bullying on a measure of Theory of Mind. Theory of mind is defined as the ability to predict the motives and intentions of others (Sutton et al 1999b). It is similar to the ability to cognitively empathise in that the definition incorporates the ability to predict the aspects of the cognitions of others. Sutton et al (1999b) found that of 193 7-10 year olds who completed a measure of bullying and of Theory of Mind, those who were

categorised as ring leader bullies (those leading bullying episodes) scored significantly higher scores on the measure of Theory of Mind than did those who 'followed' the leader (those who joined in with bullying episodes rather than leading or initiating them) and victims of bullying. This finding suggests that those who lead episodes of bullying have a superior understanding of how others would feel in a given situation. This lends support to the notion of not treating everyone who uses negative behaviours as a homogenous group.

Reactive aggression-

As with affective empathy, the ability to cognitively empathise should not function as a mechanism to inhibit or promote the use of reactive forms of aggression as this type of behaviour is enacted before the latter conscious cognitive process of considering the consequences of one's actions (Crick and Dodge 1994; Huesmann 1988). This predicted lack of significant association is reflected within the findings of the few studies that have investigated associations between cognitive empathy and use of reactive forms of aggression (such as that by Pouw et al. 2013). Based on the past research literature no directional hypotheses will be made relating to the current participant sample.

Demographic differences in the ability to cognitively and affectively empathise

Across the research literature studies are generally consistent in reporting the finding that females score significantly higher on measures of empathy compared to males (e.g. Baron-Cohen and Wheelwright 2004;

Garaigordobil 2009; Lozano and Etxebarria 2007; Rueckert and Naybar 2008; Wood et al. 2009). The ability to empathise is likely to account for the higher percentage of females compared to males within the Low frequency cluster. This therefore supports the hypothesis that within the current sample, the highest group median score of empathy would be found within the Low frequency behavioural group. An aim of the current research also to investigate differences in the group empathy scores between the primary and the two secondary schools groups. However, due to the cross-sectional design utilised the research reported as part of this thesis was not in a position to establish development of empathy. Instead, differences in empathic abilities were investigated in order to explore whether there are significant differences in empathy scores between the three school-level groups and if this may be a contributing factor to the unequal dispersion of members of the primary and the two secondary school groups across the three behavioural clusters. It was predicted that cognitive empathy will increase across the age groups, such that the 13-14 year olds will report the highest group scores. However, no hypotheses were made regarding age and affect empathy.

Implications of chosen methodology for investigating empathy

As was detailed in the previous sections, the research literature presents inconsistent findings relating to the ability to cognitively empathise and the use of proactive aggression. Methodological variations across the academic literature may account to some extent for these inconsistent findings. Arguably, the most influential of these methodological variations is the definition of empathy employed across different studies. As detailed in the Table presented

in Appendix 13 empathy is defined, operationalised and measured differently across the research literature. This in turn impacts upon the content of the scales designed to measure empathy, resulting in findings that are not necessarily comparable to those of other studies. The current study differentiates cognitive and affective empathy and follows the definition of empathy constructed by Cohen and Strayer (1996: 523). They define empathy as, 'the degree to which a person understands [cognitive empathy] and shares the emotions [affective empathy] of others'. Therefore, the scale employed to measure empathy within the current study needs to reflect this definition. A number of commonly employed scales define and measure empathy in a way that are not coherent with Cohen and Strayer's (1996) definition (see Appendix 13 for a table presenting examples of the content of the most frequently used empathy scales). As with the measurement of reactive aggression and proactive aggression, it is questionable whether the findings of studies asking others to indicate an individual's empathetic abilities can be reliably compared to studies adopting self-report measures. Therefore collecting data via self-report methods is the only method whereby there is the potential (based on whether the participant is being truthful in their responding) to understand how and individual would feel or behave in a given situation.

7.2.2 The role of perceived acceptance relating to the use of reactive and proactive aggression

The evidence thus far suggests the important role of affective empathy in inhibiting the use of negative behaviours towards peers. It also highlights the mixed findings regarding the association between the use of proactive

aggression and the ability to cognitively empathise. However, empathy relates only to the understanding and experience of the emotional consequences of negative behaviours. Another socio-cognitive factor which has been repeatedly found to correlate with the use of proactive aggression is an individual's attitude towards the use of such behaviours. It has consistently been found that those who use proactive aggression hold positive attitudes towards their use.(e.g. Arsenio et al. 2009; Bear and Manning 2011; Bernburg and Thorlindsson 2005; Bettencourt and Farell 2013; Murray Close et al. 2006; Obermann 2011) and report that they perceive others as similarly endorsing its use.

Acceptance of proactive aggression

It has repeatedly been found that those who use proactive aggression hold more favourable attitudes towards the use of these types of behaviours than their non-aggressive peers (e.g. Arsenio et al. 2009; Bear and Manning 2011; Bernburg and Thorlindsson 2005; Bettencourt and Farell 2013; Murray Close et al. 2006; Obermann 2011) and retrospectively justify their use of negative behaviours (Arsenio et al. 2009, Bear and Manning 2011; Obermann 2011). As detailed in Chapter 2, Section 2.2.2, pro-aggression attitudes and the use of aggressive behaviours are likely to have developed through observation that the use of such behaviours are adaptive to achieving goals in ones environment (e.g. Calvete and Orue 2011; Kuppens 2013; Loukas, Paulos and Robinson 2004; Rathert, Fite and Gaertner 2011; Scarpa et al. 2008; Vitaro et al. 2006; Xu, Farver and Zhang 2009). However, holding pro-aggressive attitudes and using such behaviours would seem at odds with achieving the developmental goals of adolescents. Within the developmental period of late

childhood to early adolescence, fitting into a peer group is a key and central goal for individuals (e.g. Alder and Alder 1998; Dijkstra et al. 2007; 2008; Eccles et al. 1998; LaFontana and Cillessen 2009; Larson and Richards 1991; Merton 2005). Research consistently observes negative social outcomes for those displaying both reactively aggressive (e.g. Dodge, Coie, Pettit and Price 1990; Schwartz et al. 1998), and proactively aggressive behaviours (e.g. Dodge et al. 1997; Smith et al. 2011). Social Information Processing models (e.g. Crick and Dodge 1994; Huesmann 1988) state that individuals consider the potential costs and benefits of behaviours before enactment. This process requires reflection upon the outcomes of past use of behaviour and also the observed outcomes of others' use of such behaviours (Social Learning Theory, Bandura 1977). Therefore, displaying behaviours which are disapproved of by the peer group would appear counterproductive to achieving the integral goal within the period of late childhood through to adolescence of gaining and maintaining membership within a peer group (Dijkstra et al. 2008; Veenstra et al. 2010) and is therefore likely to have an effect on an individual's attitude towards the use of aggressive behaviours.

However, those who use and hold positive attitudes towards the use of proactive aggression are more likely to be members of groups who use similar behaviours and hold similar attitudes, thus are likely to reinforce their continued use. An individuals' attitudes towards the use of negative behaviours have been shown to reflect those of their family (e.g. Totura et al. 2009), their local community (Wilkinson and Carr 2008), the school they attend (e.g. Henry et al. 2011; Perkins, Craig and Perkins 2011) and their peer group (e.g. Dijkstra et al.

2008; Huitsing 2010; Jones, Manstead and Livingstone 2011; Perkins, Craig and Perkins, 2011; Sentse et al. 2007; Espelage et al. 2003; Werner and Crick 2004). As such the use of negative behaviours within these groups who hold a level of acceptance for the use of these behaviours are likely to be received with less disapproval and punishment (in the form of social exclusion within the peer group) and a greater level of acceptance and rewards, thus reinforcing the continued use of the behaviour (e.g. Nesdale et al. 2009; Scholte, Sentse and Granic 2010). It therefore seems apparent, as reviewed in Chapter 2, that the role of the wider peer, family and community groups play a role within the development and reinforcement of attitudes towards and the use of aggressive behavioural strategies (Bronfrenbrenner 1979; Crick and Dodge 1994; Huesmann 1988).

From an intervention perspective, it would therefore appear apparent that tackling individual attitudes reflecting a level of acceptance towards proactive aggression have limited success if an individual remains in an environment whereby those who they associate with continue to promote pro-aggressive attitudes and behaviours. A body of research suggests that perceived social norms within the school environment regarding the use of negative behaviours can influence the prevalence of their use (Huesmann and Guerra 1997; Perkins, Craig and Perkins 2011). Within this body of research, studies suggest that children and adolescents often hold misconceptions regarding the level of social acceptance for negative interpersonal behaviours, believing that others find their use more acceptable than is actually the case (Perkins and Craig 2006; Schultz 1999). These misconceptions about the social acceptance of

behaviours can be problematic for the school community as a whole. For example, those who themselves find the use of negative behaviours acceptable will feel supported by others in their use of such behaviours, whereas bystanders witnessing the behaviour may not intervene to help the victims if they feel that they are in the minority that do not support the use of such behaviours (Pozzoli, Gini and Vieno 2012). Therefore it is important to identify what attitudes are held by individuals and to inform the wider school community what these attitudes are.

As previously stated it has been identified that those who utilise proactively aggressive behaviours and hold positive perceptions regarding its use tend to be members of peer groups who similarly also display such behaviours and hold similar positive attitudes towards their use (Dijkstra et al. 2008; Huitsing 2010; Jones, Manstead and Livingstone 2011; Perkins, Craig and Perkins 2011; Sentse et al. 2007; Espelage et al. 2003; Steglich et al. 2010; Werner and Crick 2004). The Behavioural Similarity Hypothesis (Cairns et al. 1988) postulates that children form peer groups on the basis that they share behavioural characteristics. Therefore, there is value in investigating the effectiveness of behaviour change interventions that specifically target these peer groups who utilise similar levels of negative behaviours.

A study which demonstrates the importance and effectiveness of such a strategy is that by Perkins, Craig and Perkins (2011). They investigated individuals' perceptions of the prevalence and perceived social acceptance of bullying behaviours within their school. They also asked participants to indicate

their own use and level of acceptance of these behaviours and found that children grossly overestimated others use of and support for bullying. After an intervention period during which posters displaying actual prevalence and perception statistics were displayed around the school, the findings from a second phase of data collection asking participants the same questions as previously showed significantly less variation between the actual and perceived use of and social acceptance of bullying behaviours. Furthermore, the reported frequency of bullying behaviours was also reduced. This study therefore suggests the influence of perceived social acceptance and thus the importance of communicating actual levels of acceptance for the use of such behaviours. Based on the past literature it was predicted that in the current participant sample there would be a significant difference in the level of acceptance of proactive aggression between the three behavioural groups. Specifically, those within the High frequency group were hypothesised to report the highest level of acceptance of proactive aggression across the three groups.

Demographic differences in the acceptance of proactive aggression

Research repeatedly reports a correlation between the use of behaviour and attitudes of acceptance towards the use of negative behaviours (e.g. Pellegrini and Long 2002; Bukowski, Sippola and Newcomb 2000; Werner and Hill 2010). This finding is consistently observed across different participant samples and has important implications for designing behavioural change interventions at around the time of school transitions. As was reported in Chapter 6, the primary school sample were more likely than the 13-14 year olds to be members of the Low aggression cluster. The contribution of the current

research was therefore to investigate whether those across the three age groups differ in their reported acceptance of the use of proactive aggression; differences which reflect the greater percentage of the primary school sample within the low aggression behavioural cluster. It is predicted that those within the 13-14 year old school sample will perceive proactive aggression as more acceptable than those within the primary school sample.

Perceived acceptance of Reactive forms of Aggression

The role of personal acceptance of the use of reactive aggression, theoretically (based on the Social Information Processing Model, Crick and Dodge 1994) should not influence the use of reactive aggression at the time of behavioural enactment, as the behaviour is enacted before the individual engages in conscious consideration of the consequences of their behaviour. However, one study in addition to that presented Chapter 5, identified a level of acceptance for certain types of aggression within samples of children and adolescents (Singh 2011). As was shown by the findings of Phase 1 of the data collection (Chapter 5) of the current thesis, children held a level of acceptance for the use of reactive aggression when displayed by individuals who are perceived to lack control over their behaviour. From the data collected in Phase 1 themes emerged which suggested that participants were pathologising the use of negative behaviours by attributing their cause to internal traits such as an individual's temper. In doing so they removed personal blame for their use of these negative behaviours. This perception that it is more acceptable for individuals to display reactive forms of negative and harmful behaviours under certain circumstances may have important implications. If the behaviour is being

perceived as acceptable under certain circumstances, this may impact upon the children's willingness to exert self-control over their emotions and emotional expression if they believe that reactive behaviours are acceptable if you cannot control them. Research suggests that a sensitive period for the development of inhibition control between the ages of 3-7 years (Jones et al. 2003; Kirkham and Diamond 2003). As such, within the early years of primary school education it is critical that children do not perceive that reactive forms of aggression are acceptable as this may affect their willingness to engage in strategies for self-regulating their behaviour. However, to date no study has investigated children and adolescents' perceptions of reactive behaviours, behaviours which are emotion driven. Rather research has focused only on types of proactive aggression. One study however, has investigated children and adolescents' perception of behaviour which has been characterised by a behavioural diagnosis of ADHD, a condition which is characterised by a difficulty to control behaviour. In a qualitative study of 150 9-14 year olds, Singh (2011) found that both children who had a diagnosis and their school peers held a level of acceptance and tolerance for behaviours displayed by children with these diagnoses. Interestingly, she also found that children without a diagnosis were using the label to warn others away from them, thus brandishing the threat of harmful outbursts against others. A limitation of this study for the context of the current research is that it focused on the perceptions of ADHD and that the label itself is only one of many factors that will affect children's perceptions. Although characterised in part by reactive behaviours, the findings cannot be generalised to more general forms of reactive aggression displayed by the wider population. This being said, the study supports the argument for more

investment in investigating children and adolescents' perception of reactive aggression.

7.2.3 Study rationale and hypotheses

Summary of the empathy in inhibiting the use of aggression-

The literature to date presents mixed findings in relation to the association between empathy and the use of reactively and proactively aggressive behaviour. Most notably an inconsistent picture of the role of cognitive empathy emerges in relation to the use of proactively aggressive behaviours (e.g. Batanova and Lukas 2011; Jolliffe and Farrington 2006; 2011; Mayberry and Espelage 2007; Pouw et al. 2013; Yeo et al. 2011). However, the predominant finding across the research literature is that those who utilise proactively aggressive behaviours score lower on measures of affective empathy compared to their non/less aggressive peers (e.g. Dadds et al. 2008, 2009; Jolliffe and Farrington 2006, 2011; Mayberry and Espelage 2007; Stavrinides, Georgiou and Theofanous 2010; Warden and Mackinnon 2003). Although, the role of empathy in the use of reactive aggression has been largely neglected, the nature of reactive aggression, which is characterised by behavioural expression in response to an emotive situation, would suggest the limited influence of empathy in predicting the use of such behaviours (Pouw et al. 2013; Sutton, Smith and Swettenham 1999). Based upon the behavioural and demographic characteristics of the groups that were investigated in the current research, it was predicted that there would be an incremental decrease in affective empathy scores across the three behavioural clusters; with the lowest affective empathy scores predicted to be observed from the High

frequency cluster. However, due to the inconsistent research findings across the literature regarding the association between the ability to cognitively empathise and the use of proactively aggressive behaviour no specific prediction was made regarding the level of cognitive empathy across the behavioural clusters.

Summary of the role of acceptance in promoting behaviour

An individual's level of acceptance of reactive aggression is likely to have little influence over the use of truly reactive behaviour. However, there is a danger that if reactive aggression is perceived with a level of acceptance, this will lead to under-reporting of the use of such behaviours to adults and also a reduced effort to regulate one own emotions to in order to control their own behaviour if they perceive a level of acceptance for the use of reactive aggression. It is particularly important that the role of attitudes which may promote the use of reactive types of behaviour is further investigated due to a lack of prior research. However, due to this lack of prior research no directional hypotheses were made regarding what the current study was likely to find.

In Chapter 5 it was found that children and adolescents perceived the role of considering the negative consequences of reactively and proactively aggressive behaviours as an inhibitory mechanism against the use of such behaviours. They also demonstrated a level of justification for the use of negative behaviours if they believed that the perpetrator lacked control of their behaviour. As discussed, research supports the socio-cognitive roles of empathy and the acceptance of behaviours as both facilitators and inhibitory mechanisms which can influence the use of negative behaviours towards peers

(e.g. Burton, Florell and Wygant 2013; Paluck and Sheperd 2012). Past research has investigated these mechanisms in relation to proactive aggression and, to a much lesser extent, reactive aggression; differentiating and investigating the two types of behaviour singularly. However, the findings detailed in Chapter 6 suggest that children and adolescents use both types of behaviour. Therefore, the current chapter addressed the fourth research question of the thesis by investigating whether there were differences in empathy and the acceptance of reactive and proactive aggression between the three behavioural clusters identified within Chapter 6. The current chapter aimed to provide further validation for the distinction between the three behavioural groups. Due to the differences in the dispersion of males and females and those within primary and secondary school groups across the behavioural clusters, these demographic groups were also investigated in order to identify whether differences in their ability to empathise and their level of acceptance of reactive and proactive aggression may have influenced the dispersion of the demographic groups across the clusters.

The following research questions and hypotheses were explored:

1. Do those within the three behavioural clusters differ in their self-reported ability to affectively empathise with others?
 1. It is predicted that the Highest frequency reactive and proactive aggression cluster would report a significantly lower group affective empathy score compared to those of the other two clusters.

2. Is there a difference in reported acceptance of reactive and proactive aggression between the three behavioural clusters?
 1. It was predicted that there would be an incremental increase in the level of acceptance of proactive aggression between the three behavioural clusters; the Highest frequency reactive and proactive aggression cluster would indicate the highest group score of acceptance for the use of proactive aggression.
3. Do group cognitive and affective empathy scores differ between demographic groups.
 1. Females were predicted to display significantly higher group scores of both cognitive and affective empathy compared to males.
 2. The 13-14 year old secondary school sample were predicted to display significantly higher median group cognitive empathy score compared to the primary school sample.
4. Do the reported group levels of acceptance of reactive and proactive aggression differ between demographic groups?
 1. The 11-12 year-old secondary school sample was predicted to report a higher level acceptance for proactively aggressive behaviours compared to those within the primary school sample.

7.3 Method

7.3.1 Participants

For details of the participants recruited for phase 2 of the data collection process see Chapter 6, Sections 6.3.

7.3.2 Procedure

As part of the questionnaire administered in phase 2 (see Chapter 6, Section 6.3. for details), participants were also asked to complete the scales detailed below in the measures section.

7.3.3 Measures

The Basic Empathy Scale (Jolliffe & Farrington, 2006)

The current research employed a modified version of The Basic Empathy Scale (Jolliffe and Farrington 2006) to measure self-reported cognitive and affective empathy. The scale consists 20 items; 11 items to measure affective empathy and 9 items to measure cognitive empathy. Participants were asked to rate on a four point likert-type scale (strongly disagree, disagree, agree, strongly agree) their perception of the degree to which they agreed with the 20 items on the scale. The original version of the scale asked participants to rate on a five, rather than four-point scale. The response option of 'neither agree nor disagree' was removed to promote more decisive responding. Following the procedure detailed by Jolliffe and Farrington (2006), each item was scored on a scale of 1-4 (a response of 'strongly disagree' received a score of 1, and a 'strongly agree' 4). Each participant obtained two separate scores relating to their self-reported

ability to affectively and cognitively empathise. Overall the scale had a high internal consistency within the current participant sample with an Alpha coefficient of .79 (affective empathy .78, cognitive Empathy .70).

Scoring and analysing the data

The total cognitive and affective empathy scores were calculated by calculating the sum of items 1, 2, 4, 5, 7, 8, 11, 13, 15, 17, 18 to obtain the affective empathy score, and 3, 6, 9, 10, 12, 14, 16, 19, 20 to obtain the cognitive empathy score for each participant. Differences between the behavioural clusters and group cognitive and affective empathy scores were investigated by conducting Kruskal-Wallis tests. Where significant results were found, post-hoc Man-Whitney analyses were conducted to identify where these differences were.

Acceptance of reactive and proactive aggression: a modified version of the Proactive-Reactive Aggression Questionnaire (Raine et al. 2006).

The participants were asked to complete was a modified version of the Proactive-Reactive Aggression Questionnaire (Raine et al. 2006). This scale consisted of the original items on the scale (as detailed previously), however, rather than being asked to indicate how often they had displayed the behaviours, the participants were asked to indicate how acceptable they thought it would be for others to use the behaviours on the list. Participants were asked to rate on a three-point likert-type scale (unacceptable, sometimes acceptable and acceptable). The decision was made to modify the behavioural scale rather than employing a pre-existing attitudinal scale due to a limitation of

past research that has investigated the relationship between acceptance of the use of reactive and proactive aggression. Within past research the scale employed to measure behavioural use and level of acceptance of behaviour are not always directly comparable (e.g. van Goethem, Scholte and Weires 2010). The implication of this is that the participants are commenting on their attitudes towards behaviours which they may not have experienced or engaged in themselves.

Scoring and analysing the data

Each item was scored by allocating a score of '0' for a response of 'unacceptable' through to a score of '2' for responses of 'acceptable'. Each participant received two scores relating to their level of acceptance of reactive and proactive aggression. The items pertaining to reactive and proactive aggression are detailed in the previous section. The scale had an adequate overall internal consistency with a Cronbach's alpha score of .77 (reactive aggression .76, proactive aggression .58). In order to identify differences in attitudinal scores between the three behavioural groups a Kruskal-Wallis analysis was conducted to investigate and identify significant differences in group scores between the clusters. Additional post-hoc Man-Whitney tests were conducted to investigate where these differences were.

7.4 Results

Table 18 displays the group median empathy scores (affective and cognitive) and scores reflecting the level of acceptance of the use of reactive and proactive aggression for each behavioural cluster and demographic group.

Table 18. Median scores for empathy and level of acceptance relating to the use of reactive and proactive aggression

	Demographic	Affective Empathy (range)	Cognitive Empathy (range)	Proactive Acceptance (range)	Reactive Acceptance (range)
Gender	Males	27 (14-41)	27 (16-36)	0 (0-9)	6 (0-17)
	Females	31 (16-43)	28 (16-36)	0 (0-6)	5 (0-20)
School level	Primary	30 (17-40)	29 (16-36)	0 (0-8)	5 (0-15)
	Secondary 11-12	30 (14-40)	28 (16-36)	0 (0-5)	5 (0-19)
	Secondary 13-14	29 (16-40)	27 (19-36)	0 (0-10)	7 (0-20)
	Sample total	30 (14-43)	28 (16-36)	0 (0-10)	6 (0-20)
Behavioral Cluster	Low both	30 (14-41)	28 (16-36)	0 (0-6)	4 (0-14)
	Moderate- high reactive, Low- moderate proactive	29 (16-43)	27 (16-36)	0 (0-7)	8 (0-17)
	High both	28 (17-39)	27 (19-33)	2 (0-10)	10 (0-20)

7.4.1 Differences in empathy scores between the behavioural clusters

The first research question of the chapter aimed to explore differences in-group empathy scores between the three behavioural clusters. To do this, firstly a Kruskal-Wallis test was conducted and revealed a significant main effect of behavioural group on affective empathy scores ($H(2)= 9.201, p<.05$) ($p=.01$).

However, there was no significant main effect of group on cognitive empathy scores ($H(2) = 1.389, p > .05$) ($p = .499$). Post-hoc Mann-Whitney analyses were subsequently conducted to identify where the differences in affective empathy scores between the groups were. In order to avoid a type I error in interpreting the results a Bonferroni correction of $p < .018$ was applied to the post-hoc tests.

As can be seen in Table 19, the only significant group difference in empathy score was between the Low and High aggression clusters. Although statistically significant, only a small effect size was observed, indicating that there was little variance in the empathy scores between Low and High aggression clusters.

Table 19. Mann-Whitney comparisons of group scores for affective empathy between the behavioural clusters

Cluster comparison	<i>U</i>	<i>z</i>	<i>r</i>	Higher score
Low x Medium-high reactive, low- moderate proactive	39907.5	-1.251	-.051	Not significant
Moderate-high reactive, low- moderate proactive x High	5261.5	-1.956	-.062	Not significant
Low x high both	7867.5**	-3.059	-.147	Low

* $p < .05$;
 ** $p < .005$

7.4.2 Differences in group scores reflecting the level of acceptance of reactive and proactive aggression

The second research question of the chapter aimed to investigate differences in the group scores of acceptance of the use of reactive and proactive aggression between the behavioural clusters. It was hypothesised that

an incremental increase in acceptance for both types of behaviours would be found across the behavioural clusters. It was anticipated that the High frequency group would report the highest group median scores (reflecting the highest level of acceptance) and the Low frequency group, the lowest. A Kruskal-Wallis analysis was conducted to investigate and identify any significant differences in group scores between the behavioural groups. The analysis revealed significant differences in group scores reflecting reported levels of acceptance of both reactive aggression ($H(2) = 127.059, p < .001$) ($p = .0$) and proactive aggression ($H(2) = 106.4, p < .001$) ($p = .0$) between the three behavioural clusters. To test the hypothesis of an incremental increase across the behavioural groups post-hoc Man-Whitney tests were conducted to investigate where these differences were. In order to avoid a type I error in interpreting the results a Bonferroni correction of $p < .018$ was applied to the post-hoc tests.

Table 20. Mann-Whitney analysis of differences in reported acceptability of the use of reactive and proactive aggression between the behavioural clusters

Perceived attitudes	Cluster	<i>U</i>	<i>r</i>	<i>Z</i>	Higher score
Proactive Acceptance	Low x	31094***	-.285	-6.989	Medium-high
	Medium-high reactive, low-moderate proactive				reactive, low-moderate proactive
	Low x	4129***	-.461	-9.587	High
	High				
Reactive Acceptance	Medium-high reactive, low-moderate proactive	3844***	-.293	-4.915	High
	x				
	High				
	Low x	22679.5***	-.392	-9.620	Medium-high
Proactive Acceptance	Medium-high reactive, low-moderate proactive				reactive, low-moderate proactive
	Low x	3814.5***	-.372	-7.736	High
	High				
	Medium-high reactive, low-moderate proactive	4804**	-.167	-2.797	High
Reactive Acceptance	x				
	High				
	Low x				
	Medium-high reactive, low-moderate proactive				

* $p < .05$; ** $p < .005$; *** $p < .001$

As can be seen in Table 20. post-hoc Mann-Whitney tests revealed significant differences in reported acceptance of the use of both reactive and proactive aggression across the groups, such that the more frequent the reported aggression, the higher the level of perceived acceptance. It was identified that all groups differed significantly from one another in their self-reported perceived acceptance of reactive and proactive aggression. The greatest difference in effect was observed between the Low and High aggression clusters (showing a moderate effect) in their perception of the

acceptance of proactive aggression and the lowest effect between the Moderate-high reactive and low-moderate proactive and the High frequency cluster (showing a low effect , identifying a negligible difference).

7.4.3 *Summary of associations between empathy and levels of acceptance with cluster membership*

A summary of the ranked scores of group medians for the variables measured can be seen within Table 20. This is followed by a description of the characteristics of each cluster established from the analyses presented in the previous sections.

Table 21. Ranked order of empathy and attitudinal scores across the three clusters

		Low	Moderate-high reactive, low- moderate proactive	High
Empathy	Affective	1	2	3
	Cognitive	1	2	3
Level of acceptance	Proactive	3	2	1
	Aggression			
	Reactive	3	2	1
	Aggression			

1= lowest group scores

Cluster 1: Low frequency Reactive and Proactive Aggression

Members of the Low frequency cluster reported the highest group median scores on the measures of affective and cognitive empathy across the sample. However, cognitive empathy scores were not significantly higher than

any other group. The median affective empathy score was found to only be significantly higher than that of the High frequency cluster. However, the effect size of this comparison was small suggesting the difference was negligible. Of the three clusters, members of this cluster reported the lowest group level acceptance for both reactively and proactively aggressive behaviours, significantly lower than the other two clusters on both measures. The level of perceived acceptance appeared to have the most substantive effect on differentiating this cluster from the others.

Cluster 2: Moderate-high reactive aggression, low-moderate proactive aggression

The median group scores for both affective and cognitive empathy did not differ significantly from the group median score for either the Low or High frequency groups. Reflective of the incremental increase hypothesised across the behavioural clusters, the group median score for this group indicated that they perceived a significantly greater level of acceptance for both reactively and proactively aggressive behaviours compared to those within the Low frequency group. This cluster reported a significantly lower level of acceptance for these behaviours than those within the High frequency group.

Cluster 3: High frequency Reactive and Proactive Aggression

This group reported the lowest group median score on the measure of affective empathy (which was significantly lower than the Low frequency group). However, there was only a small effect size suggesting the effect was negligible. As predicted, the group median score for this group was significantly

higher on the measures of perceived acceptance for reactively and proactively aggressive behaviours compared to both of the lower frequency groups; suggesting that they indicated the belief that they perceived the use of these types of behaviours as more acceptable than did members of the other two clusters. The moderate size reported suggests the effect of the level of acceptance for proactive aggression in differentiating this cluster from the others was relatively substantive.

7.4.4 Demographic differences in empathy scores across the sample

The third research question of the chapter aimed to investigate demographic differences in the group affective and cognitive empathy scores. As hypothesised and detailed within Table 22, a significant group difference in group affective empathy score was found between males and females; the group median scores for the sample of females was higher than that of the males. A medium effect size was observed indicating a relatively substantive difference in affective empathy scores between males and females. Significant group differences in cognitive empathy scores were also found between males and females. The females' group median score was higher than that of the males. However, a low effect size was observed indicating that the result was negligible.

Table 22. Mann-Whitney comparisons of scores for empathy and gender

	Empathy	<i>U</i>	<i>Z</i>	<i>R</i>	Higher score
Gender	Affective empathy	26531*	-11.017	-.431	Females
	Cognitive Empathy	42287*	-4.459	-.175	Females

* $p < .001$

Due to the finding of a significant association between both gender and affective empathy with membership in the Low frequency behavioural group (both protective factors for a reduced likelihood of engaging in aggressive behaviour), a post-hoc logistic regression was conducted to investigate the significance of each of these variables upon the ability to predict membership in Cluster 1. The purpose of this was to identify whether gender or affective empathy was the stronger predictor of membership in the Low frequency group.

A stepwise logistic regression identified that although both gender (if removed from the model $\chi^2 (1) = 11.166, p < .005$) and affective empathy (if removed from the model $\chi^2 (1) = 8.247, p < .005$) had a significant effect on the ability of the model to predict membership in the Low frequency cluster, gender was the stronger predictor and progressed to the next step of the model. The results of the final regression model can be seen in Table 23. The final model reporting the effects of gender indicated that males were 60% less likely compared to females to be members of the Low frequency group.

Table 23. Results of a logistic regression of the effect of Gender and Affective Empathy on prediction of membership in the Low Frequency Cluster

	<i>B (SE)</i>	95% CI for Odds Ratio		
		Lower	exp <i>b</i>	Upper
Constant	.536 ** (.110)	.431	1.71	.804
Gender	-.530* (.159)			

Note. $R^2 = .61$ (Hosmer & Lemeshow), .017 (Cox & Snell), .023 (Nagel Kerke).
Model $\chi^2 (1) = 11.179, p < .005$. * $p < .005$, ** $p < .001$

To test the hypothesis that the 13-14 year old secondary school sample would report a higher group cognitive empathy score in comparison to the primary school sample, a Kruskal Wallis analysis was conducted. It was found that there was a significant difference in cognitive empathy ($H(2)= 2.599$, $p<.05$), but not affective empathy scores between the three age groups. Further Mann-Whitney analyses were then conducted to identify where these differences between the groups were. As can be seen in Table 24. the group median score for the primary school sample was significantly higher than that of the 13-14 year old secondary school sample, with a small effect size being found; indicating only a small variation in the scores between the group primary and the 13-14 year old secondary school scores. Therefore the hypothesis that the 13-14 year olds would score higher on the measure of cognitive empathy was not supported.

Table 24. Mann-Whitney comparisons of scores for cognitive empathy and school level

	<i>U</i>	<i>Z</i>	<i>r</i>	Higher score
Primary x 11-12 year olds	16255.5	-1.262	-.065	Not Significant
Primary x 13-14 year olds	23186.5*	-2.55	-.011	Primary
11-12 x13-14 year olds	24412.5	-1.241	-.057	Not significant

* $p<.01$

7.4.5 Differences between demographic group scores on self-reported acceptance of the use of reactive and proactive aggression

As can be seen in Table 25, significant group differences in the scores reflecting the level of perceived acceptance of proactive aggression were found

between males and females. The males' median scores were higher than those of the females'; however, a small effect size was observed indicating that there was little variation in the scores between the sample of males and females. No significant differences in group median scores were observed between males and females and their level of perceived acceptance for reactive aggression.

Table 25. The results of a Mann-Whitney analyses of differences between level of perceived acceptance of the use of reactive and proactive aggression between gender groups

	<i>U</i>	<i>Z</i>	<i>r</i>	Higher score
Proactive Acceptance	47116.5**	-2.968	-.123	Males
Reactive Acceptance	51760	-.497	-.022	Not Significant

* $p < .05$; ** $p < .005$

To identify differences in reported acceptance of reactive and proactive aggression between the three school groups Kruskal Wallis analyses were conducted. These identified that there were significant differences in both perceived acceptance of reactive ($H(2)=21.325$, $p < .001$) and proactive aggression ($H(2)=17.986$, $p < .001$). Further Mann-Whitney analyses were conducted to see where these differences were (Table 26). To avoid making a Type I error in interpreting the data a Bonferoni correction of $p < .018$ was imposed.

Table 26. The results of a Mann-Whitney analyses of differences between level of perceived acceptance of the use of reactive and proactive aggression between the school age groups

Type of aggression	Age Group	<i>U</i>	<i>Z</i>	<i>r</i>	Higher score
Reactive aggression	Primary x 11-12 year olds	15233.5	-2.241	-.116	Not significant
	Primary x 13-14 year olds	20241*	-4.573	-.21	13-14 year olds
	11-12 x 13-14 year olds	23050.5	-2.193	-.1	Not significant
Proactive aggression	Primary x 11-12 year olds	15247*	-2.867	-.148	11-12 year olds
	Primary x 13-14 year olds	21825*	-4.242	-.195	13-14 year olds
	11-12 x 13-14 year olds	24762	-1.153	-.053	Not significant

** $p < .005$

As can be seen in Table 26 in both comparisons of reactive and proactive aggression, the 13-14 year olds held a higher median score on the measure of perceived acceptance of reactive and proactive aggression than the primary school sample. Further analyses between the primary and 11-12 year old samples identified that the 11-12 year olds held a higher level of perceived acceptance for proactive, but not reactive aggression. The 11-12 year olds and the 13-14 year olds did not however, differ on either measure.

7.5 Discussion

The aim of this chapter was to further explore the behavioural typology identified in Chapter 6 by investigating whether the socio-cognitive factors of empathy and acceptance of the use of reactive and proactive aggression differed between the three behavioural groups. A further aim was to also

investigate differences in these factors between the gender and school age groups. The reason for investigating these specific variables was that they reflected reasons provided by children and adolescents in Phase 1 (Chapter 5) regarding why they believed others would use aggressive behaviours and the level of acceptance of reactive aggression. Upon further investigation of the literature available, it appeared that there is a body of evidence to support the value of investigating associations between these variables and the use of reactive and proactive aggression. However, what has appeared to be neglected in the research literature is the association between these variables and reactive aggression. Therefore it is not clear how these variables would map on to the behavioural groups identified in chapter 6, who reported utilising both reactive and proactive aggression.

The first research question of the Chapter was concerned with exploring differences in group cognitive and affective empathy scores between the behavioural clusters. Of the two types of empathy, only group affective empathy scores were found to differentiate the groups. As hypothesised, group median affective empathy scores decreased as the frequency of the self-reported use of both reactive and proactive aggression increased. However, the only statistically significant difference observed was between the High frequency and the Low frequency groups with the low frequency group holding a higher group median empathy score. Affective empathy uniquely differentiated those who most frequently use such behaviours to those who less frequently use them. Although group cognitive empathy scores also decreased as the frequency of aggression increased, this was not statistically significant. This suggests that

the members of the three behavioural clusters were equally capable of identifying and predicting others' responses to a given situation (to cognitively empathise). The inverse relationship between group affective empathy scores and frequency of reactive and proactive aggression, supports the findings of past research, which suggests that proactively aggressive individuals report lower scores on measures of affective empathy compared to their non-aggressive peers (e.g. Dadds et al. 2008, 2009; Jolliffe and Farrington 2006; 2011; Mayberry and Espelage 2007; Stavrinides, Georgiou and Theofanous 2010; Warden and Mackinnon 2003).

7.5.1 Perceived acceptance of the use of reactive and proactive aggression

The second research question of the chapter aimed to investigate group differences in group scores on a measure of acceptance of the use of reactive and proactive aggression. An incremental and significant increase in the level of acceptance for the use of proactively aggressive behaviours was identified across the behavioural clusters, such that those who utilised these behaviours most frequently (the High frequency cluster) reported the highest group median score of perceived acceptance for the use of these types of behaviours. This supports the findings of past research that identified a positive association between the use of proactively aggressive behaviours and others' acceptance of those behaviours (e.g. Arsenio et al. 2009; Bear and Manning 2011; Bernburg and Thorlindsson 2005; Bettencourt and Farrell 2013; Murray Close et al. 2006; Obermann 2011). Given the importance of the role of the peer group within the developmental period of late childhood to early adolescence (Alder and Alder 1998; Dijkstra et al. 2007; 2008; Eccles et al. 1998; LaFontana and

Cillessen 2009; Larson and Richards 1991; Merton 2005) this finding supports what we would expect to find based upon socio-cognitive theories of negative behaviour; such as the Social Information Processing models (Crick and Dodge 1994; Huesmann 1998). Such models agree that the use of proactively aggressive behaviours is preceded by a consideration of the consequences of one's actions before enactment. The use of proactively aggressive behaviour would appear detrimental to the formation and maintenance of peer friendships unless they perceived a level of acceptance for the use of such behaviours. A repeated finding across qualitative research investigating children's and adolescents' perception of why people engage in bullying, is that this form of proactive aggression is used as a means of attaining popularity (social visibility and dominance) in the peer group (e.g. Parkhurst and Hopmeyer 1998).

The current research also investigated levels of perceived acceptance of reactively aggressive behaviours; an area that has been neglected within the research literature. By its nature, reactively aggressive behaviours should not be influenced by perceived acceptance, as this type of behaviour is theorised to be enacted before the process of considering the consequences of one's actions (Crick and Dodge 1994; Huesmann 1998). However, this study observed a significant and incremental increase across the behavioural clusters in the level of perceived acceptance of the use of reactively aggressive behaviours. The Highest frequency cluster, who displayed these behaviours most frequently, also reported the highest level of acceptance for the use of reactive aggression. What the findings of this study cannot provide insight into however, is why these individuals perceive that these behaviours are

acceptable to use. Although it can be speculated that this perception of acceptance is a result of cognitive dissonance (Festinger 1957). That is, by perceiving that these behaviours are acceptable, they are less likely to experience the negative affect associated with the use of behaviour that is perceived as unacceptable and only the positive affect of exploring negative emotion.

7.5.2 Demographic differences in empathy and perceived acceptance of reactive and proactive aggression.

The third research question aimed to investigate demographic differences in the self-reported ability to affectively and cognitively empathise. As predicted, significant differences were observed between the group scores for males and females on the measure of both cognitive and affective empathy. Females scoring a significantly higher group median score compared to males on both measures. This finding is consistent with those of past research studies (e.g. Baron-Cohen and Wheelwright 2004; Garaigordobil 2009; Lozano and Etxebarria 2007; Rueckert and Naybar 2008; Wood et al. 2009). Due to the finding that both gender and affective empathy predicted membership of the Low frequency cluster, a further post-hoc logistic regression analysis was conducted, revealing that gender was a stronger predictor of membership within the Low frequency cluster compared to affective empathy.

Contrary to expectations, the primary school sample scored significantly higher on the measure of cognitive empathy than those within the 13-14 year old secondary school sample. However, there were no significant differences in

group affective empathy scores between the primary and two secondary school samples. Although we would expect to see an incremental increase in cognitive empathy with age (e.g. Hoffman 1984; Singer 2006; Van der Graaff et al. 2014) there are several possible reasons that these results were found. Firstly, the findings of the current study are likely to be a result of the cross-sectional, rather than a longitudinal design employed; maturation of empathy within individuals was not measured. Further to this, the primary schools where the data were collected were not feeder schools to the secondary schools where further data was collected. As cognitive empathy is postulated to be a learnable skill (Joliffe and Farrington 2006), it may be the case that differences in teaching strategies between the schools may have affected the results. For example if the primary schools where the data were collected placed a heavier emphasis on teaching emotional recognition and prediction, comparative to the feeder schools for the secondary schools this may account in part for the difference. The Cronbach's alpha score for the cognitive element of the empathy scale itself was good, so the results are not likely to be due to inaccuracy of the measurement tool.

The fourth research question aimed to explore differences between the demographic groups in their level of perceived acceptance of the use of reactive and proactive aggression. Although no specific predictions were made, analyses revealed that males scored significantly higher on the measure of perceived acceptance of proactively aggressive behaviours compared to females. This finding is reflective of the demographic characteristics of the behavioural clusters (there was a significantly greater number of females

compared to males in the Lowest frequency behavioural group). However, no significant differences emerged relating to the reported level of perceived acceptance of reactively aggressive behaviours between males and females; suggesting that both males and females held a similar level of acceptance for reactive aggression. As predicted, there was a significant difference between the 11-12 and primary school sample in their perception of the acceptance of proactive aggression; such that the 11-12 year old sample held a higher levels of perceived acceptance. The 13-14 year old secondary school sample scored significantly higher on the measure of perceived acceptance of both reactive and proactive aggression compared to the primary school sample. There was no significant difference in the perception of the acceptability of neither reactive, nor proactive aggression between the 11-12 and the 13-14 year old samples. Although past research suggests a short-term increase in the use of and acceptance of proactive aggression at around the time of school transition (e.g. Pellegrini and Long 2002; Bukowski, Sippola and Newcomb 2000; Pellegrini and Long 2002; Werner and Hill 2010) the findings from the current research suggest that the secondary sample as a whole maintained a higher level of acceptance for proactive aggression than the primary school sample. The implications of the findings will be discussed in the discussion Chapter (Chapter 9).

7.6 Conclusion

The current study aimed to further explore the behavioural typology of reactive and proactive aggression identified in Chapter 6 by investigating differences in group median scores between the three behavioural groups on

measures of empathy and perceived acceptance of reactive and proactive aggression. Although comparable in their ability to cognitively empathise, significant cluster group differences were found in the median affective empathy scores and the group scores reflecting the acceptance of the use of reactive and proactive aggression. The Highest frequency behavioural group reported the lowest group affective empathy scores and the highest group score of acceptance of both reactive and proactive aggression, whereas the converse was observed for Low frequency cluster. In accordance with past research, the current study observed an association between the use of and perceived acceptance of the behaviours measured. Although useful to identify the association between the perceived acceptance and the use of such behaviour, the current study with its quantitative methodology was not in a position to identify the social representations of the behaviours which may contribute towards the perception that others are accepting of negative interpersonal behaviours. Therefore, the next chapter will explore the children's and adolescents' attributions regarding why they believe people become involved in interactions where by one child is picked on by others. With this information we will be in a more advantageous position to begin to address and change the specific social representations that may be promoting the perception of the acceptance of reactive and proactive aggression.

8.0 A mixed methods investigation of children's and adolescents' social representations of why others become involved in negative interactions.

8.1 Introduction

The thesis has so far identified subgroups of children and adolescents based upon the frequency with which they reported displaying/utilising both reactive and proactive aggression. Categorised as low, moderate-high reactive, low-moderate proactive and high frequency, the pattern of usage of these behaviours are similar to those of past research, with the exception of the middle group which differs in the characteristic of combined use of both reactive and proactive aggression. In Chapter 7, further exploration of the themes observed in Chapter 5, Phase 1 revealed significant differences between the three sub-groups in their scores on a measure of affective empathy (with the Low frequency group reporting the highest levels) and their perception of the acceptability of the use of reactive and proactive aggression. Comparative to affective empathy, the perception of the acceptance of reactive and proactive aggression was more substantive in differentiating the groups. Those who reported most frequently using these behaviours also indicated the highest levels of perceived acceptance for their use (showing a medium effect size). This supports past research literature identifying both ontological and microsystem associations with the use of both reactive and proactive aggression. However, these data do not provide any insight into the factors that contribute to why such behaviours are perceived to be utilised, perceptions which may reveal why some perceive them as acceptable. The aim of this final analysis was to identify the social representations of why people become

involved in negative interactions with others and whether these perceptions differed between the groups identified in Chapter 6; thereby identifying macro system level risk factors associated with cultural norms relating to the use of negative interpersonal behaviour. This final empirical chapter will report the findings of a qualitative section of the Phase 2 questionnaire that asked participants to respond to two open ended questions. Participants were asked to detail their perception of why people are picked on and why people pick on others. Thematic Analysis (to identify themes) followed by Content Analysis (to quantitatively differentiate responses between the groups) were employed to analyse the responses to the two questions posed in order to identify the participants' social representations of why people become involved in negative interactions.

8.2 Background

Not all children are directly involved as either a perpetrator or the recipient of aggression in schools. However, all children are part of a social setting in which aggressive interpersonal behaviour occurs. As such they are likely to witness either directly or indirectly (though talking with peers) such behaviour and so are collating information which shapes their understanding of the types of people who are involved in aggressive interactions and the situations in which they occur. The use of negative behaviours are inherently facilitated by the support, or perceived support of the wider peer group. As detailed in Chapter 2, the Ecological Systems perspective details the micro system level influence of the peer group as playing an integral role in the development of use of negative behaviour. The peer group act as both models

for behaviour (e.g. Ojala and Nesdale 2004) and provide feedback supporting the use of particular behavioural strategies (e.g. Nesdale et al. 2009; Scholte, Sentse and Granic 2010). Theoretical models such as the Theory of Reasoned Action (Ajzen 1980) support this and propose that action is a culmination of individual and perceived social attitudes towards the use of behaviour (Pozzolini and Gini 2010; Rigby and Johnson 2006). Thus, action is a result of individual differences in cognition as well as the perception of support from the wider peer group (as supported by models of behaviour such as those proposed by Bronfenbrenner 1979 and Crick and Dodge, 1994). It is therefore it is important to understand both the attitudes and perceptions towards the use of negative interpersonal behaviours from those who utilise such behaviours and from the wider peer group.

Past research has explored the role of social norms supporting the use of negative interpersonal behaviours and associations with its use by individuals (Arsenio et al. 2009; Bear and Manning 2011; Bernburg and Thorlindsson 2005; Bettencourt and Farrell 2013; Murray Close et al. 2006; Obermann 2011), in the peer group (e.g. Dijkstra et al. 2008; Huitsing 2010; Jones, Manstead and Livingstone 2011; Perkins, Craig and Perkins 2011; Sentse et al. 2007; Espelage et al. 2003; Steglich et al. 2010; Werner and Crick 2004) in the classroom (e.g. Jones, Bombieri and Livingstone 2012; Sim and Tan 2013; Scholte, Sentse and Granic 2010) and across the whole school (e.g. Paluck and Sheperd 2012; Perkins, Craig and Perkins 2011). Across all of these levels, a positive association has been found between perceived social norms and the prevalence of proactive aggression. However, what these studies do not do is

provide insight into the factors that young people are basing their judgements on. The questions still remain regarding what social perceptions children identify to explain the use of negative behaviours and whether these differ between those who do and do not use such behaviour. From a Critical Realist approach, in order for researchers to gain a better understanding of the contributing factors which underlie the use negative interpersonal behaviours, it is important to understand how groups facing/utilising behaviour construct meaning behind its use. As detailed in Chapter 2, the development of reactive and proactive aggression is multi-factorial, with influences on the development of behaviour including risk factors on an ontogenetic through to macro system level. Providing the opportunity for children and adolescents to explain why they believe others would engage in negative interpersonal behaviours allows for the investigation and identification of shared social representations across groups which may be facilitating or inhibiting the perception of the social acceptance for the use of such behaviours. This allows the researcher to go further than solely identifying the prevalence of the use of such behaviours (which was done within Chapter 6), and level of perceived acceptance (see Chapter 7) to then be in a position to suggest what specific social representations need to be addressed across a group level in order to effect behavioural change.

Research investigating young people's use of, and risk factors for engaging in proactive and reactive aggression has typically employed quantitative methods to investigate researchers' predefined variables which they believe are associated with the use of these negative types of behaviours (See Chapter 3, Tables 3.3.and 3.4. for a summary of quantitative studies).

However, a small number of studies (including the one reported in Chapter 5) have employed qualitative methods to investigate children's and adolescents' understanding of why people engage in proactive aggression, although to date this has been restricted to a focus on bullying (e.g. Frisen et al. 2007; 2008; Thornberg, Rosenqvist and Johansson, 2012). To the researcher's knowledge only one study has investigated perceptions of reactive forms of aggression (Singh 2011), but is restricted to focusing specifically on the social construction of ADHD. The advantages of employing qualitative methods are that the participants may reveal risk factors that are not predicted by the researcher, thus expanding our knowledge of the social representations of these types of behaviours within the context in which they are displayed (Ellwood and Davis 2010). In Phase 1, the participants were asked to define a list of words. Included in their definitions the participants revealed social representations of the reasons why people become involved in negative interpersonal interactions. However, as part of Phase 1 participants not asked directly to reflect upon their understanding of why people become involved and therefore any information the participants provided in addition to their definition was circumstantial. The following section will detail studies that have adopted qualitative methods to investigate children's and adolescents' perceptions of why individuals become involved in negative interactions with others and what these tell us about the role of perceived social representations regarding why people become involved in negative interpersonal interactions.

In 2007 and 2008 Frisen et al. investigated 11-18 year-old children and adolescents' understanding of why people are bullied and why people bully

others. In both the 2007 and 2008 studies the themes of the victim's appearance and the victim's behaviour, emerged as shared social perceptions regarding why people are bullied. In the 2007 study, participants were also asked why they believed people bully others. From these data, themes relating to the perception that the bully suffers from low self-esteem, the bully feeling cool, the bully suffering from problems and peer pressure emerged, sharing similar characteristics to the perpetrator lacking control and achieving positive affect as was found in Chapter 5. More recently, two qualitative studies employing 10-16 year olds by Thornberg and Knutsen (2012) and Thornberg, Rosenqvist and Johansson (2011) have identified similar themes in samples of Swedish children and adolescents. When asked why bullying takes place, yet again, themes emerged relating to attributions of the perpetrator which included the perception that they suffered from 'problems', (low-self-esteem, emotional problems), they used bullying behaviours to increase or maintain social status, or for fun. Interestingly however, themes also emerged in the 2011 study that suggested that people join in when they see others being bullied as a form of self-protection, so that they do not become the future targets of an attack. Similar themes to those of past research also emerged in the Thornberg et al. (2011; 2012) studies suggesting that bullying occurs due to attributes of the victim. Guerra, Williams and Sadek (2011) also found in a sample of children and adolescents in the USA that victims were perceived as different or vulnerable. Again, the perception that bullies picked on others due to emotional problems and issues with self-esteem, to maintain or increase social status, for entertainment and protection emerged. What was interesting about this study was that they also identified a number of themes relating to the wider school

environment. Themes relating to perceptions that bullying was just normal behaviour by people their age and that bullying is just more prevalent in some schools than others emerged, suggesting that it was a natural behaviour by certain groups and within certain environments. Consistent findings therefore emerge across countries regarding the perceptions of why children and adolescents become involved in bullying relationships. However, such qualitative research investigating perceptions of why people become involved in such interactions has not been conducted in the UK. As such, this is a gap in the research literature that the current study will address.

It is particularly important to identify which perceptions those who utilise negative behaviours attend to in order to readdress these perceptions with this group; as it is this group who need to change their behaviour. However, only two studies employing qualitative methods to investigate children and adolescents' understanding of bullying have actually differentiated the responses of those who do and do not engage in negative behaviours towards their peers. Both Frisen et al., (2008) and Thornberg and Knutsen (2011) found that those who are bullied are more likely to attribute causality for bullying to an attribution of the bully, and bullies are more likely to attribute causality to the victim. Interestingly, Thornberg and Knutsen (2011) differentiated bully roles to identify those who were bully-victims. Of this group, 35% attributed causality to the victim, whereas 75% attributed causality to the perpetrator. To date no research has compared the perceptions of subgroups based upon their frequency of usage of both proactive and reactive aggression (sub-groups which were identified within Chapter 6). Therefore, it is unclear whether perceptions

influencing the use of negative behaviours differ between those who infrequently or frequently utilise negative behaviours. If the current research identifies such differences in attributions between the three groups, this will provide support for the need to design tailored intervention/prevention strategies to reduce the use of proactive aggression in schools for those who frequently, compared to less frequently utilise negative behaviours. Conversely, if no differences are found this identifies the need to address social representations at school wide or macro system level.

The overarching aim of the analyses presented in the current chapter was to gain a greater understanding of the social representations of the motivations of perpetrators and why victims are targets for negative interpersonal behaviour. The current chapter aimed to investigate whether there are differences in the social representations between the three behavioural groups identified in Chapter 6. The current chapter investigated this by reporting the findings of participants answers to two open-ended questions relating to why they believe others would become involved in a scenario whereby one person would 'pick on' another. Thematic Analysis was conducted on the data and initial codes were subjected to a Content Analysis to identify the most frequently cited themes and also to differentiate responses to the two questions between the three behavioural groups. In doing so, this current chapter aimed to identify the social representations relating to the use of negative behaviour. Furthermore, by investigating group differences in social representations, it may become apparent that differential interventions are or are not needed for each of these groups to readdress the social representations of aggressive

behaviour. The study reported in this chapter addressed the following research questions-

1. What are children and adolescents social representations regarding why people become involved in negative interpersonal interactions?
2. Do these representations differ between the behavioural groups identified in Chapter 6?

8.3 Method

8.3.1 Participants

The details of the participants who took part in the current study are presented in Chapter 6, section 6.3.1. However, a small number of participants did not respond to the two qualitative questions in the questionnaire (the responses to which are being reported in the current chapter). The details of these participants can be seen below in Table 27.

Table 27. Details of the number of participants who did not respond to the qualitative section of the questionnaire.

	Low	Moderate-high reactive, low-moderate proactive	High	Total
Primary	1	0	1	2
11-12 years	0	6	4	10
13-14 years	5	11	3	29
Males	3	8	9	20
Females	3	9	9	21
Total from cluster	6	17	18	

8.3.2 Measures

A limitation of past qualitative research in relation to gaining an understanding of the perceptions that may promote the use of negative interpersonal behaviour is that this research has focused on bullying. As detailed in Chapter 2, the use of the term 'bullying' is problematic in that it has been shown to elicit a specific schema of the behaviours utilised and characteristics of the perpetrators involved in such relationships (Frisen et al. 2007; 2008; Guerra, Williams and Sadek 2011; Thornberg and Knutsen 2012; Thornberg, Rosenqvist and Johansson 2011). Similarly, Phase 1 of the data collected identified that children and adolescents in the current participant sample also held a specific understanding of the terms 'aggression' and 'violence'. Therefore, the questioning for the current study avoided the use of the term, 'bully' or 'bullying' and also avoided the alternatives of 'aggression' (as it was associated with reactive behaviours and anger) and 'violence' (with its connotations of being a severe behaviour) and instead employed the more general term of, 'picked on'.

Two open-ended questions were posed to the participants-

1. Why do some people get picked on by other people?
2. Why do people pick on others?

8.3.3 Procedure

The two open-ended questions (above) were posed to the participants in the final section of the questionnaire detailed in Chapter 6, Section 6.3.4.

Participants were provided with half a sheet of A4 paper per question on which

to write their response. Once the questionnaires were collected in, the responses from each participant were copied into three separate Word documents (one for each behavioural group) before being uploaded into NVivo 9 (QSR International 2011). Once the data were inputted Thematic Analysis was conducted on the data to identify themes that emerged in response to the two questions. Content Analysis was then conducted in order to identify whether there were differences in the responses provided across the three behavioural groups.

Analysing the data

The data were inputted into the qualitative data analysis program NVivo 9 (QSR International 2010) in order to code the data and also be able to differentiate the responses from participants across the three behavioural groups. Thematic Analysis was conducted to identify themes from the data. Content Analysis was then employed to identify the most frequently cited themes and also to differentiate responding between the behavioural groups.

Thematic Analysis was conducted following the six phases outlined by Braun and Clarke (2006). During phase one, involving familiarising oneself with the data, the responses to the two open ended questions were inputted in to Nvivo and read over once again. During this phase notes were made about any initial observations of patterns in the responses across the data set. Phase two, involved the production of initial codes, these were data driven, rather than being based on pre-existing theory or past research. The use of Nvivo allowed for the creation of a number of initial 'nodes' or codes that could be used to

group together similar responses across the data set. An initial list of nodes was created based upon the notes taken during phase one. The only predefined coding nodes were to differentiate each response into whether it related to attributions of the victim or the perpetrator. The data were then read through and coded line by line and any responses relating to each node were highlighted and added to the node. New nodes were added throughout this initial phase of coding to account for responses that did not fit into the initial coding list. Phase three involved searching for commonalities or themes between nodes. Initially this involved looking at the list of nodes produced from the previous phase and collapsing nodes together which essentially categorised the same or very similar idea. After this a consideration of how the initial nodes could be combined to form overarching themes was conducted. This involved identifying commonalities between nodes and grouping these together to create a list of candidate themes. Phase four involved refining the candidate themes. To do this the Braun and Clarke's (2006), two-step reviewing method was followed. Firstly, the collected extracts for each candidate theme were read and assessed for coherence. If the extracts followed a coherent pattern, then the next step was progressed to. If not it was considered whether the theme needed refining or changing or whether the data were better placed under different nodes. Step two involved assessing the theme in the context of the data set as a whole. To do this the whole data set was re-read in order to assess whether the identified codes accurately represent the data set as a whole and to identify any themes which were not initially identified. However, at this stage no new themes were identified. Finally, the themes were refined and named. This stage involved reading through the extracts identified under each

theme and identifying whether or not the data represented a theme on its own or needed to be divided into subthemes.

In order to identify any differences in responding between the three behavioural groups Content analysis was conducted. To do this, columns were added into SPSS, corresponding individually to each one of the subthemes identifiable from Tables 29 and 30. For each participant, if they had indicated that particular response a score of '1' was assigned, '0' if not and '666' if no response was provided. Each participant may have indicated more than one reason for each question. Once the data were entered, Chi-square analyses were conducted for each subtheme individually to identify differences in the responses to each question by the three behavioural groups.

8.4 Results

8.4.1 Research question 1: What are the perceptions held by children aged 9-14 years regarding why people are involved in negative interpersonal interactions?

Five overarching themes and a further six sub-themes were identified from the thematic analysis and these are presented in Table 28.

Table 28. Themes identified relating to why people are 'picked on'/are 'picked on by others'

Superordinate Themes	Subordinate themes	Response to question number
Picking on others to maintain or elevate social status	'Picking on others because they think they're gonna get cool' [11-12 year old secondary school aged participant]	1 and 2
	'They want to look like the bigger and better person' [Primary school aged participant]	
	'They think it's cool and brings you to the centre of attention' [13-14 year old secondary school aged participant]	
Picking on others as a form of entertainment	'Because the cool people think that it's funny' [11-12 year old secondary school aged participant]	
	'Because they think it's fun to pick on other people' [11-12 year old secondary school aged participant]	
	'They find who the person is funny or weird and they find it funny to pick on them' [Primary school aged participant]	1 and 2
'Victims are not one of us'	Victims are identifiably different	
	'They're different to everyone else' [11-12 year old secondary school aged participant]	1 and 2
	'People are different so they start to pick on them' [Primary school aged participant]	
	'Maybe because they are different to the other people' [13-14 year old secondary school aged participant]	

	Victims are easy targets	<p>'The person being picked on is an easy target to upset'</p> <p>[Primary school aged participant]</p> <p>'People like to pick on other people's insecurities'</p> <p>[Primary school aged participant]</p> <p>'Because people see them as defenceless so they will not retaliate, they are often the bigger person'</p> <p>[11-12 year old secondary school aged participant]</p>	1 and 2
	Jealousy	<p>'Because sometimes people feel jealous of them and make fun of them'</p> <p>[11-12 year old secondary school aged participant]</p> <p>'The main reason is because the other person is jealous of the person'</p> <p>[Primary school aged participant]</p> <p>'Because the bully may be jealous of them and what they have or what they can do'</p> <p>[13-14 year old secondary school aged participant]</p>	
	Dislike of the victim	<p>' Mostly because they simply dislike them'</p> <p>[Primary school aged participant]</p> <p>' The people picking on them don't like them'</p> <p>[13-14 year old secondary school aged participant]</p> <p>' Because they just don't like that person'</p> <p>[11-12 year old secondary school aged participant]</p>	
Cycle of Aggression	The deserving victim	<p>'Maybe they did something to them a long time ago'</p> <p>[11-12 year old secondary school aged participant]</p>	1 and 2

	'Some people get picked on because they have done something first' [Primary school aged participant] 'Maybe because they did something bad, so for payback' [13-14 year old secondary school aged participant]	
The perpetrator has been picked on by others	'They have been picked on before' [Primary school aged participant] 'If the person has been picked on themselves they're more likely to do it to someone else' [11-12 year old secondary school aged participant] 'Because other people have been mean to them, they can be mean to others' [Primary school aged participant]	1 and 2
Picking on others for positive affect	'Because some people feel better about their self' [Primary school aged participant] 'It makes them feel better about themselves' [11-12 year old secondary school aged participant] 'Because they're insecure about themselves and it makes them feel better' [13-14 year old secondary school aged participant]	2

Table 28 displays the overarching themes found across the dataset and the subthemes that were subsequently included in the content analysis. Each one of the overarching themes detailed in Table 28 will now be discussed.

Theme 1: Picking on others to elevate or maintain social status

A theme which appeared across all three groups in response to all three questions and which was cited by members of all three behavioural groups, was that of the use of picking on others to elevate or maintain the social status of the perpetrator. This was differentiated into the perception that people picked on others for social visibility and dominance (to be seen as, 'cool'), but also to reinforce their own perception of their social status. One 11-12 year old secondary school aged participant explained that,

'They think it's cool and brings you to the centre of attention'

This suggests that the use of such behaviour promotes the image of being 'cool' to others. This would suggest therefore that they hold the perception that picking on someone is a behaviour thought of as desirable by their peers. In addition other participants suggest that picking on others is a way of reinforcing an image of social dominance to oneself,

'Because they think they're big doing it'.

[Primary school aged participant]

Responses pertaining to the theme of elevation or maintenance of social status were also observed in response to the question of why people are picked on. Responses such as those below suggest that participants perceive that the victim as being a tool to promote social status, as suggested within the responses of these two participants,

'[the perpetrator] want[s] to look like the bigger and better person'

[Primary school aged participant]

'Sometimes it can be to prove a point, to prove who is the toughest'

[11-12 year old participant]

This suggests that victims are selected on the basis that the perpetrator will be able to achieve this goal.

Theme 2: The use of aggression as a form of entertainment

The theme of picking on others as a form of entertainment emerged in response to questions relating to why people pick on others and join in when they see others being picked on. This theme featured heavily in response to these two questions and were ranked as the second most frequently cited response to both questions across all three behavioural groups. Responses included the perception that people pick on others because they are bored, do it as a joke, or they think that it is fun,

'because the person gets bored'

[13-14 year old participant]

'to have a joke'

[Primary school aged participant]

'because some people think it's fun to pick on others and be mean'

[Primary school aged participant]

' So they can annoy them for fun'

[11-12 year old participant]

These responses suggest the perception that the perpetrator obtains some form of positive affect from the use of such behaviour and the reaction it evokes.

Theme 3: Victims are 'not one of us'

A theme which featured heavily in response to the question of why someone would be picked on and why someone would pick on others is that of the victim being identifiably different to the majority of the peer group. This theme was differentiated into two sub-themes; the 'victims are different to us' and 'victims are easy targets'.

Theme 3.1: Victims are identifiably different to us-

As was observed within the Study 1 (Chapter 4), a theme relating to the perception that victims are in some way different emerged yet again,

'because they are different and unique and other people don't like that'.

[13-14 year old participant]

Differences were cited relating to the features of the victim that are perceived to be different,

'They're small or look different'

[Primary school aged participant]

'if that person is not like them by what they wear'

[13-14 year old participant]

'They think the person that they are teasing is weird because they look different
or because they do something no none else does/likes'

[11-12 year old participant]

'maybe because they have a huge fear of something or can't play football or
don't have much money'; 'because they are clever or not clever'

[Primary school aged participant]

'because of their colours or their religion'

[Primary school aged participant]

All of these relate to identifiable differences between the victim and the wider
peer group.

Theme 3.2: Victims are easy targets

The second subtheme identified those who are picked on as being
identifiably vulnerable. Such vulnerabilities included, the victim being an, 'easy
target' or that they do not or cannot defend themselves,

'the person being picked on is an easy target to upset'

[Primary school aged participant]

'some people get picked on because their an easy target and find it hard to
defend themselves'.

[11-12 year old participant]

This suggests that these participants perceive that the victims are easy to provoke a reaction from and are not likely to retaliate; thus will not pose a threat to the perpetrator.

Theme 3.3: Jealousy

The third sub-theme characterised responses pertaining to the idea that the perpetrator is in some way jealous of the victim, which in turn provokes an attack.

'maybe because they are jealous of the grades they get at school, or whether they are jealous of the amount of friends they have'

[11-12 year old secondary school participant]

'they may be jealous or they may have bad back ground'

[11-12 year old secondary school participant]

'jealousy?... make themselves feel better'

[Primary school aged participant]

Theme 3.4: Disliked victim

The final sub-theme identifies that participants perceive that people are targeted because the perpetrator generally dislikes the victim.

'The person might not like the person who is getting picked on'

[Primary school aged participant]

'They don't like them anymore'

[Primary school aged participant]

'they don't like the other person'
[13-14 year old secondary school participant]

Theme 4: Cycle of Aggression

A theme which emerged in response to both the questions of why someone would be picked on but also why someone would pick on others was that of a perceived cycle of aggression. Again, this was differentiated in to two sub-themes of the 'deserving victim' and 'the perpetrator has been picked on by others'.

Theme 4.1: The deserving victim

Across the three behavioural groups, participants cited that some children provoke being picked on and thus are in some way a 'deserving victim',

'Some people get picked on because they have done something first'
[11-12 year old participant]

'because they did something to that person and they wanted their own back'
[13-14 year old participant]

'because they are a snitch or are very spoilt'
[Primary school aged participant]

This therefore suggests the notion that they perceive revenge as a viable way to behave.

Theme 4.2: The perpetrator has been picked on by others

A further subtheme, which featured less heavily than the first, was the perception that those who pick on others have themselves been the victims of negative behaviour. This included the perception that they had been picked on by other students,

'It's sometimes because the person who is picking on the other person is
probably getting bullied'

[Primary school aged participant]

'if the person has been picked on themselves they're more likely to do it to
someone else'.

[11-12 year old participant]

Both of these sub-themes suggest a culture of individuals taking action against others who have wronged them, rather than alerting school personnel to address the issue.

8.4.2 Research question 2: Do these perceptions differ depending upon membership of the three behavioural groups identified within Chapter 6?

In order to identify whether the perceptions of why people become involved in incidents whereby one or more people pick on another individual differed between the three behavioural groups a Content Analysis was conducted.

The Content Analysis involved identifying statistical differences in the frequency of which participants across the three clusters cited perceptions coded under each of the themes. The findings are presented in tables 29-30.

Table 29. Ranked order of the most frequently cited themes relating to responses to the question of, 'why do people get picked on by other people' and the Chi-square analyses results

Question 1	Low		Moderate-high reactive, low- moderate proactive		High		χ^2 (df)	C
	Yes %	No %	Yes %	No %	Yes %	No %		
Did they mention this theme								
Identifiable as different	54.2	41	54.5	37.9	42	46	6.522 (4)	.071
Victim provoked attack	16.7	78.2	13.8	78.6	14	74	4.749 (4)	.061
To elevate/maintain Social status	13.2	81.7	10.3	82.1	16	72	5.908 (4)	.068
Entertainment	8.1	86.8	4.9	87.5	12	76	8.062 (4)	.089
Dislike victim	11.1	83.8	10.3	82.1	2	86	7.499 (4)	.076
Jealousy	7	87.9	5.8	86.6	6	82	4.327 (4)	.058

* $p < .05$

Table 30. Ranked order of the most frequently cited themes relating to responses to the question of, 'why do people pick on by others' and the Chi-square analyses results

Question 2	Low		Moderate reactive, low proactive		High		χ^2 (df)	C
	Yes %	No %	Yes %	No %	Yes %	No %		
Did the mention this theme								
To elevate/main tain Social status	37.7	56.9	30.4	62.5	34	54	6.308 (4)	.07
Entertainment	24	64	19.2	73.7	24	64	4.599 (4)	.06
Identifiable as different	8.9	85.7	8	84.4	10	78	5.585 (4)	.066
Jealousy	8.1	86.5	3.6	89.3	6	82	7.942 (4)	.078
Victim provoked attack	9.2	85.4	8.5	84.4	12	76	4.185 (4)	.057
Perpetrator bullied themselves	5.1	89.5	5.8	87.1	4	84	3.658 (4)	.075
Positive affect	10.5	84.1	11.6	81.3	6	82	4.528 (4)	.084
Dislike victim	7.3	87.3	5.8	87.1	8	80	4 (4)	.056

* $p < .05$

To identify differences in responding between the three behavioural clusters each initial coding theme which represented at least 5% of the total percentage of responses to each question by each group were analysed by conducting a 2x3 Chi-square analysis, comparing the three behavioural groups. Where significant differences emerged post-hoc 2x2 Chi-square analyses were conducted to identify

where these differences were. Tables 29 and 30 displays the findings of Chi-square analyses to identify any differences in responding across the three behavioural clusters. As can be seen, no significant difference emerged.

8.5 Discussion

The aim of the current chapter was to investigate children's and adolescents' social representations of why people become involved in negative interpersonal interactions and whether this perception differed between the three behavioural groups identified in Chapter 6. Participants were asked to respond to the following two questions as part of the questionnaire administered to collect the data for Phase 2 of the data collection, 'why do some people get picked on by other people' and 'why do people pick on others'? Mixed methodology was employed by conducting an initial Thematic Analysis to identify themes relating to perceptions of why individuals become involved in these negative interactions, with a further Content Analysis being employed to quantify the frequency of which these perceptions were cited by each behavioural group. Understanding social representations of why children and adolescents believe behaviour is used is important because normative beliefs about behaviour have been consistently linked to the use of such behaviour (e.g. Huesmann and Guerra 1997; Salmivalli and Voten 2004). The current study provides a unique insight into children's and adolescents' social representations of the use of negative interpersonal behaviour as, to date, no studies have asked participants to provide their understanding of why people become involved in negative interactions which are not explicitly presented to them as bullying. As detailed in Chapter 3, the use of the term bullying is likely to evoke negative connotations of which participants wish to disassociate themselves with (Bandura 2002) and/or evoke specific schemas

of what participants think a bully should look like or how they would behave (e.g. Rodkin and Berger 2008). Secondly, the current study is also unique in that it differentiates the responses of those who utilise proactive aggression with different degrees of frequency; research on bullying has not provided this differentiation. Thirdly, no qualitative research of this nature has been conducted employing samples of children and adolescents from the UK. The following sections will firstly, provide a brief overview of the findings of the current study, followed by a discussion of the implications of the findings upon our understanding of children's and adolescent's social representations of negative interpersonal behaviour.

The overarching themes from the data can be differentiated into social representations of what the perpetrator is achieving from using negative behaviours and attributes of the victim that make them the targets of attacks. In summary, picking on others was perceived as a tool to maintain or enhance social status within the peer group and a form of entertainment. A theme pertaining to why people would pick on others, and indeed be picked on, was the perception that this type of behaviours is part of a cycle of aggression. This theme was differentiated into two subthemes. The perception emerged that a proportion of victims provoke an attack and/or the perpetrator has been picked on before. Interestingly, what did not emerge as a prominent theme across the current data set was the perception that the perpetrator was not able to control their behaviour (pathologising the use of negative behaviour as was found in Phase 1). Finally a theme of the victim as being perceived as 'different' emerged. In order to answer the second research question, which aimed to investigate whether these social representations differed across the three behavioural groups identified within Chapter 6, Content Analysis was conducted.

This analysis identified that the three behavioural groups held similar perceptions regarding why people pick on others and are picked on by others. This indicates that within the current sample, those who most frequently utilise reactively and proactively aggressive behaviours do not necessarily hold different social representations regarding why people become involved in such interactions to those who less frequently use them. The following sections will discuss the implications of these findings in relation to what has been found in past qualitative studies and the implications these have for the continuation of negative interpersonal behaviours in schools. However, due to a lack of research into more generalised forms of interpersonal aggression, the majority of this literature will be that which has investigated bullying.

Perpetrator attributions

Themes identified relating to the children's and adolescents' social representations of why people would pick on others highlight that they are perceived to be achieving positive outcomes from picking on others. In responses to the question of, 'why do people pick on others', those within all three behavioural groups perceived that people do so because they find it fun/ entertaining or it affected their social status. The theme of entertainment, to the researcher's knowledge, has only emerged within two other qualitative study which investigated children adolescents social representations of why people perpetrate and/or are the victims of bullying (Guerra, et al. 2011; Thornberg et al. 2011). Although participants did not elaborate upon why they perceived that people would find these behaviours entertaining, there were instances within the data whereby children suggested that aggression facilitated social cohesion, as it served as an activity to participate in with their

friends ('they think it looks fun or feel left out' [11-12 year old]; 'to be part of it' [13-14 year old]; 'they want to be involved' [11-12 year old]). It therefore may not be the behaviour itself per se which is enjoyable, but the social cohesion it facilitates. The period of adolescence is one in which social cohesion with peers is perceived as particularly important to the development of an individual's self-identity (Dijkstra et al. 2008; Eccles et al. 1998; LaFontana and Cillessen 2009; Larson and Richards 1991). Therefore observing groups forming to observe acts of negative behaviour is likely to promote the perception of social cohesion. However, other participants perceived that the use of such behaviours was to relieve boredom ('because the person gets bored' [13-14 year old]). As detailed in Chapter 2, frequent exposure to aggression in the media may serve to contribute towards normalising the use of such behaviours and subsequently they may be associating the use of aggression with entertainment (Zhen et al. 2011). That is, they may believe that due to the amount of aggression in films, television and video games, and the glorification of such behaviours, that aggression should be entertaining; therefore may be influenced to perceive that real aggression is also a form of entertainment. As such, this prompts the need for further investigation by future research to understand why the perception that picking on others is entertaining is held.

A further perceived positive outcome that was evident from the responses to both questions by all three behavioural groups was that of picking on others to increase or maintain social status within the peer group. The term 'social status' is used here to encompass participant responses pertaining to popularity, defined as 'A person's ability to be interpersonally effective at achieving goals in social situations... to behave in ways which make them visible, prestigious and central in their peer group' (de Bruyn et al. 2010: 545). This finding is reflective of other qualitative

studies that have asked children and adolescents to discuss why they believe people bully others (Frisen et al. 2007; 2008; Guerra et al. 2011; Thornberg et al. 2010). Furthermore, this finding is also reflective of the findings of quantitative studies which have observed an association between perceived popularity and perpetrating bullying; such that those who utilise such behaviours tend to be perceived as popular by their peers (e.g. Caravita and Cillessen 2012; Cillessen and Mayeux 2004; Huitsing et al. 2010; Rodkin and Berger 2008; Salmivalli and Isaacs. 2005; Veensta et al. 2010).

It was apparent from the data that there was the perception that negative interpersonal behaviour is justified if the victim 'deserved it' or the behaviour was enacted in retaliation (even if not against the person who has wronged the perpetrator). The theme of a 'deserving victim' suggests that there is the perception that a proportion of victims have provoked others to pick on them. Similar themes have again, been found by past qualitative studies investigating perceptions of why children perpetrate bullying (Frisen et al. 2007; 2008; Guerra et al. 2011; Teräsahjo and Salmivalli 2003). This suggests the idea of a cycle of aggression and supports the findings reported in Chapter 6, that 6.38% of the sample reported that they both perpetrate bullying behaviours, but were also the victims of such behaviours.

Victim attributions

Themes that emerged in response to the questions of why individuals are picked on and why individuals pick on others, identified the social perception of the victim as being, 'different' and/or 'vulnerable'. These themes were also identified within Chapter 5 and have been repeatedly observed across the qualitative research

literature investigating children's perceptions of why people become the victims of bullying (Frisen et al. 2007; 2008; Guerra et al. 2011; Thornberg et al. 2012; Teräsahjo and Salmivalli 2003). The Content Analysis conducted in the current chapter identified that no significant differences emerged between the three behavioural groups regarding this perception. The social representation that victims are different can be both problematic for the victims of such behaviour in terms of others helping them, but also advantageous for peers who are not being targeted. By perceiving victims as different and members of an, 'out-group', perpetrators are less likely to face objections and defending behaviour from those within the wider peer group if those who are victims are perceived as 'outsiders'. Social Identity Theory argues that an individual's identity is derived from group membership (Tajfel and Turner 1979). The theory further proposes that the identification of the differences of 'out-group' members further reinforces the positive attributes of one's own group and oneself. Therefore, identifying the differences between those being picked on and oneself is likely to be adaptive not only to consolidate and reinforce one's own self-image, but also, as a self-protecting mechanism. If the social perception is that the victims are different and if they are subsequently cast out from the peer group, children and adolescents can disassociate the negative experiences from those in the out-group to those that they can anticipate experiencing themselves (Zeedyk et al. 2003). A consequence of this disassociation however, is the risk that children will then morally disengage with the plight of victims and either join in with the perpetrator, in order to appear supportive of them, or not intervene to stop the behaviour and protect the victim from harm (Bandura 2002). According to Bandura's (2002) Theory of Moral Disengagement, by perceiving a victim as different

(dehumanising a victim), the perpetrators of negative behaviours can disengage with the potential consequences of their actions upon their victim.

Implications for our understanding of the differentiating characteristics between the three behavioural groups.

Unlike the perception of the social acceptance of negative interpersonal behaviours, which differed across the three groups, the social representations of why people become involved in incidents where one individual is picked on by others was shared across all three behavioural groups. These shared social representation suggest that the perceptions of the wider school population need to be addressed, rather than interventions focusing solely on the social representations held by those who are directly involved in such behaviours. This supports the findings of studies that identify the limited effectiveness of interventions to reduce the prevalence of aggressive interpersonal behaviours which focus solely on changing characteristics of the perpetrator (Perkins, Craig and Perkins 2011; Wang, Chen, Ngan and Ma 2012). However, this is not to say that additional support is not needed for those who perpetrate negative behaviours. As Ttofi and Farrington (2011), identified within their meta-analysis of research evaluating the effectiveness of anti-bullying programmes in England, whole school policies/interventions appear effective in reducing the number of victimised children but not the number of bullies, who benefit instead from additional intervention support.

8.6 Conclusion

This study makes a unique contribution to our understanding social representations of negative behaviour held by children and adolescents aged 9-14

years old. Firstly, to date, qualitative research investigating children's and adolescents' understanding of why people become involved in negative interpersonal behaviours has focused on their understanding of bullying; a very specific sub-type of proactive aggression. The current research however, asked participants to reflect upon their understanding of why someone would be 'picked on' by one or more individuals; thus not restricting their understanding to instances whereby an individual is repeatedly targeted. However, interestingly, the findings were reflective of past research directly investigating bullying. Secondly, no such qualitative research investigating children's social representations of why people become involved in negative interactions had previously been conducted with UK-based participant samples. Finally, research has previously differentiated the responses of those based on the frequency of their use of reactive and proactive aggression.

Thematic Analysis identified shared social representations held across all three behavioural groups from their answers to the questions posed. These themes related to Picking on others to maintain or elevate social status, Picking on others as a form of entertainment, 'Victims are not one of us' and, A Cycle of Aggression. Subsequent content analysis of the frequency of which responses pertaining to each theme were made by the three behavioural groups identified that a shared perception was held across all three behavioural groups regarding why people would become involved in such behaviours. The current research and its finding that shared social representations were held across all three aggression groups supports past research that asserts need for schools to design institution wide strategies to address these social representations that may reinforce the use of negative

interpersonal behaviours (e.g. Perkins, Craig and Perkins 2011). The implications will be discussed further in the next Chapter.

9.0 General discussion

9.1 Aims

This chapter will provide a general discussion of the research conducted and included within the thesis. The findings of the previous chapters will be integrated to present a behavioural typology of reactive and proactive aggression in a sample of 9-14 year olds and an insight into their understanding of the use of these behaviours. The implications of this typology for our understanding of the use of, and risk factors for the development of these behavioural repertoires and for behaviour change strategies will be discussed. This will be followed by a discussion of the strengths and limitations of the current research and the direction for future research.

9.2 The aims of the current thesis

The thesis explored children's and adolescents' use and understanding of reactive and proactive aggression with the overarching aim to identify a behavioural typology of the use of reactive and proactive aggression. Relative to research that has investigated bullying, there are fewer studies that have investigated both reactive and proactive aggression in samples of children and adolescents (1,655 investigating bullying compared to 295 investigating more general forms of proactive and reactive aggression). The majority of studies investigating the two types of behaviour have adopted a correlation approach to identifying risk factors associated with each behaviour (e.g. Dodge 1991; Little 2003; Poulin and Boivin 2000; Vivaro and Brendgen 2005), but have found a high overlap in the use of the two types of behaviours.

These studies consistently identified a correlation between the reported use of the two types of behaviour of between .4 and .9. This poses a problem both methodologically and practically in terms of designing effective intervention programmes in school aimed at reducing the prevalence of these behaviours. Methodologically, the high overlap between the two types of behaviours violates the assumptions of bivariate normality required to conduct a variable-centred correlation to investigate associated risk factors with the two types of behaviour individually (Cohen, 1983). As such others have taken a person-centred, rather than variable-centred approach to investigate the behavioural patterns of the use of both reactive and proactive aggression in order to account for the overlap in the use of these behaviours (e.g. Chan, Fung and Gerstein 2013; Crapanzano, Frick and Terranova, 2010; Fite, Colder and Pelham 2006; Mayberry and Espelage 2007; Pang, et al 2013; Stickle, Martin and Thomas 2012; Unnever 2005). Of these, only four have collected their data from non-specialised samples (Crapanzano, Frick and Terranova, 2010; Mayberry and Espelage 2007; Pang et al. 2013; Stickle, Martin and Thomas 2012). These studies have consistently identified groups displaying frequent use of both reactive and proactive behaviours and a group reporting no or infrequent use of such behaviours. What differs between the studies are the characteristics of the groups between the infrequent and frequent use of the behaviour. These have important implications in terms of our understanding of the development of such behaviour. However, as identified in Chapter 6, these few studies suffer from methodological shortcomings which may reduce the reliability of their findings. Since the collection of the data for the current thesis, an additional study has been conducted which utilised a very similar methodology to the current research. Similarly to the current research Pang et al. (2013) administered the Reactive-

Proactive Aggression Questionnaire (RPAQ; Raine et al 2006) to a community sample of 1148 13-14 year olds (mean= 13.17, SD= 0.80) in Singapore. Again, similarly to the current research, the data from Pang et al's participant sample were entered into a k-means cluster analysis. However, as with the other studies only two of the clusters found by Pang et al (2013) mirrored those found in the current research. Pang et al found three distinct behavioural groups, one reporting low levels of both behaviours, one reporting frequent use of both and a final group defined by their frequent use of reactive aggression only. A distinct limitation of all of the past research in relation to children and adolescents in the UK is that, none of these studies were conducted in the UK. The lack of UK based research is an important omission, as suggested by Bronfenbrenner's (1979) Ecological Systems model (reported in Chapter 2), the culture one belongs to influences the use of behaviour (Bowman et al. 2007; Gelfand et al. 2012; Leung and Cohen 2011; Holt and Espelage 2012; Severence 2013). As such, the lack of research employing UK based participants is problematic for UK based practitioners who are basing intervention strategies to reduce the use of reactive and proactive aggression on Theory based on data collected from other cultures. Methodological limitations mean that the findings of the few studies that have been conducted may not be comparable. The thesis therefore investigated a behavioural typology of the use of reactive and proactive aggression within sample children in compulsory fulltime education in the UK. In doing this the research aimed to provide a unique insight into demographic, behavioural and socio-cognitive risk factors associated with the development of reactive and proactive aggression amongst British schoolchildren. A mixed methodological investigation was conducted which addressed the following research questions:

1. How do children define terminology relating to the use of types of aggression, violence and bullying?
2. Do children and adolescents who engage in reactive and proactive aggression form distinct groups based on the type and frequency of behaviour they display?
3. Is membership in each of the behavioural groups associated with involvement in bullying?
4. Are there significant differences in the self-reported ability to empathise and the perception of the social acceptance of reactive and proactive aggression between the behavioural groups identified?
5. What are children and adolescents social representations regarding why people become involved in negative interpersonal interactions? Do these perceptions differ between the behavioural groups?

9.3 Summary of findings

The thesis began with a critical literature review which investigated risk factors for the development of reactive and proactive aggression. An Ecological Systems framework was applied to identify risk factors for the development of reactive and proactive aggression across differing levels of proximal influence to children and adolescents (Chapter 2). Due to the behavioural overlap in the use of reactive and proactive aggression as identified across the published research literature (e.g. Crapanzano et al 2010; Fossati et al. 2010; Fung, Raine and Gao 2009; Mayberry and Espelage 2007; Stickle et al. 2012), the review investigated whether theoretical and empirical literature would support the distinction between the development of the two types of behaviour and the associated developmental pathways for behaviour

change. From this review, it was apparent that reactive and proactive aggression were conceptualised as distinct forms of behaviour enacted in response to different autonomic and cognitive process (e.g. Ambrose and Menna 2013; Barnett et al. 2005; Hinnant and El-Sheikh 2009; Ireland and Smith 2009; Monks et al. 2005; Ortiz and Raine 2004; Scarpa, Tanaka and Haden 2008). The research reviewed indicated the role of peers, family and the wider society in developing and reinforcing the continuation of cognitions which promote the use of reactive and proactive aggression (e.g. Calvete and Orue 2011; Coyne and Archer 2004; Feshbach 2005; Gentile, Mathieson and Crick 2011; Huesmann et al. 2003; Linder and Gentile 2009; Martins and Wilson 2012; Qouta et al. 2008; Chaux et al. 2012; Orue et al. 2011; Scarpa et al. 2008). An appreciation of what facilitates and promotes the cognitions leading to the expression of reactive aggression and proactive aggression is important for interventions aiming to reduce the prevalence of these behaviours.

A systematic review of the research literature was then conducted in order to create a methodological blueprint for the two research Phases reported in Chapters 5-8. This review focused on research providing prevalence rates of reactive and proactive aggression and bullying and critically considered the influence of different methodologies upon the prevalence statistics of reactive aggression, proactive aggression and bullying (Chapter 3). The review highlighted that methodological variations across the research literature limit the comparability and reliability of the data reported in important ways. It identified inconsistent operationalisation of reactive and proactive aggression and particularly its sub-form bullying across the research literature. These variations were, whether or not participants were provided with a definition of the behaviour under investigation, the inclusion of language which

has been shown to promote biased responding, the time frame within which participants were asked to comment on their experiences and who was asked to complete the behavioural scales (self or others). This review also highlighted an important gap in the research literature which was likely to compromise the accuracy of children's and adolescents' reports of their involvement in negative peer interactions. Research conducted in samples of children and adolescents from Europe and America indicate that children and adolescents may hold a different understanding of what characterises a bullying relationship to those researching and tackling the problem in schools (Frisén, Holmqvist and Oscarsson 2008; Maunder, Harrop and Tattersall 2010; Monks and Smith 2006; Rodkin and Berger 2008; Smith et al. 2002; Vaillancourt et al. 2008). As such, this may lead to inaccurate reporting of involvement in such interactions. A subsequent search of the available research literature identified that no research had been conducted to investigate how children and adolescents define and differentiate bullying from more general forms of proactive and reactive types of aggression in the UK or elsewhere. The accuracy of reporting involvement in negative interpersonal behaviour has important implications in terms of allocating sufficient resources for addressing the problem in schools (Naylor et al. 2008).

To address this gap in the research literature and to help inform the methodology of the main data collection phase (Phase 2), Phase 1 of the data collected (reported in Chapter 5) employed a qualitative methodology and involved collecting focus group interview data to investigate how children and adolescents aged 11-18 years old defined a list of terminology utilised across the research and legislative literature to describe negative interpersonal behaviour (violence,

aggression and bullying). This provided a unique contribution to our understanding of how children and adolescents understand and differentiate terminology relating to different types of negative interpersonal behaviours. The findings of this study identified that children and adolescents held a consistent understanding of the characteristics of a bullying relationship; behaviour which is intentional, repeated and intended to cause harm to the victim. However, of importance for the direction of the remainder of the thesis, it was also apparent that children were experiencing and displaying reactive forms in addition to proactive forms of aggression (of which bullying is a sub-type). Aggression was understood as the feeling of anger which could lead to behavioural expression (referred to throughout the thesis as reactive aggression). The term violence was understood as purposeful, pre-planned behaviour (referred to throughout the thesis as proactive aggression). Whilst providing their understanding of terminology relating to the term 'aggression' it became apparent that they also had personal models for making sense of why such behaviours were displayed, social representations which could be facilitating and promoting their continued use. These included the perception that some individuals lacked control of their behaviour and that taking the perspective of others acted as an inhibitory mechanism for displaying acts of aggression. This study also showed that although there was general disapproval for the use of bullying and deliberate acts of aggression, a level of acceptance appeared to emerge for the use of reactive aggression (in that the perception that individuals lack control) and there was the social representation that positive outcomes could be obtained from the use of non-repeated forms of proactive aggression. From this research Phase and supported by previous literature, the decision was taken to ensure that the terms, 'bullying', 'aggression' and 'violence' were not to be included in later data collection materials

due to the consistent understanding of what these terms meant to those involved in research Phase 1.

Chapter 6 introduced the second data collection Phase of the thesis and addressed the second and third research questions of, 'do children and adolescents who utilise reactive and proactive aggression form distinct groups based on the type and frequency of behaviour they display?' and 'Is membership within each of the behavioural groups associated with involvement in bullying?' To answer these questions and identify a behavioural typology of reactive and proactive aggression and associations with involvement in bullying, data were collected via questionnaires administered to 9-14 year olds. The findings reported in Chapter 6 contribute to both a theoretical and empirical debate regarding the heterogeneity of the development and use of reactive compared to proactive aggression. Three distinct behavioural groups of children and adolescents were identified based upon the pattern of their use of reactive and proactive aggression. Similarly to past research a group characterised by a lower than the sample median use of both reactive and proactive aggression (Low frequency) and a group reporting frequently using both types of behaviours (High frequency) was identified (Crapanzano et al. 2010; Mayberry and Espelage 2007; Pang et al. 2013; Stickle et al. 2012). A further group was identified and characterised by their moderate-high use of reactive and low-moderate use of proactive aggression. This finding is unique in the research literature as past research has repeatedly found only one group defined by the use of both types of behaviours (Crapanzano et al. 2010; Mayberry and Espelage 2007; Pang et al. 2013; Stickle et al. 2012). It should also be noted that, the findings of the current study and others (e.g. Crapanzano et al. 2010; Fossati et al. 2010; Fung et al. 2009;

Mayberry and Espelage 2007; Stickle et al. 2012), identified that reactive forms of aggression are more prevalent than proactively aggressive behaviours.

The third research question of, 'Is membership within each of the behavioural groups associated with involvement in bullying?' was also investigated in Chapter 6. Answering this question provided a contribution to our understanding of how bullying maps onto the use of reactive and proactive aggression; to the researchers knowledge this has only been done twice before (Camodeca et al. 2002; Crapanzano et al. 2010). However, as detailed in Chapter 6, both of these studies employed methodology which may have compromised the reliability of the data collected. The Low frequency group were significantly less likely than the other two groups to report being bullies or bully-victims. Conversely, the High frequency group were significantly more likely than the other two groups to report being bullies and bully-victims. Interestingly, there were no significant differences between the three groups in their likelihood of reporting being the victims of bullying.

The study presented in Chapter 7 addressed the fourth research question: 'Are there significant differences in the self-reported ability to empathise and the perception of the social acceptance of reactive aggression and proactive aggression between the behavioural groups identified'? The purpose of exploring these variables was to further validate differences between the behavioural groups. The variables selected for further examination were based on the risk factors identified by the participants in Phase 1 (Chapter 5), which were also identified in the literature review presented in Chapter 2, as being risk factors for the development of reactively and proactively aggressive behavioural repertoires. Within Phase 1 of the data collection

(Chapter 5), children and adolescents cited the ability to take the perspective of others and as a factor influencing the decision to use proactive forms of aggression and also a level of acceptance for the use of reactive forms of aggression. The ability to empathise was identified in Chapter 2 as an individual level protective factor against the use of proactive aggression. Although past research provides a consistent picture of the association between perceived acceptance of proactive behaviour and the use of such behaviours (e.g. Arsenio et al. 2009; Bear and Manning 2011; Bernburg and Thorlindsson 2005; Bettencourt and Farrell 2013; Murray Close et al. 2006; Obermann 2011) little is known about associations between perceived acceptance of reactive behaviours and the use of such behaviours.

The investigation of group membership and self-reported empathy in Phase 2 of the data collection (Chapter 7) contributes to an inconsistent picture of associations between the use of reactive and proactive aggression self-reported ability to empathise (e.g. Dadds et al. 2008; 2009; Jolliffe and Farrington 2006; 2011; Mayberry and Espelage 2007; Warden and Mackinnon 2003). To summarise, as was found in the current research (with a significant difference only between those who least compared to most frequently utilise aggression), past research has relatively consistently found an incremental decrease in affective empathy scores as the frequency of the use of proactive aggression increases in samples of children and adolescents (e.g. Arsenio et al. 2009; Barchia and Bussey 2011; Crick and Dodge 1996; Gini 2006; Gini, Pozzoli and Hauser 2011; Jolliffe and Farrington 2006; Lovett and Sheffield 2007; Mayberry and Espelage 2006; Scarpa et al. 2010). Although only one other study has investigated the combined use of reactive and proactive

aggression, finding again, as reported proactive aggression increased in addition to reactive aggression, affective empathy scores decreased (Mayberry and Espelage 2007). However, the effect size was small, suggesting the difference was negligible. What is less clear from past empirical research is the association between aggression (both reactive and proactive) and cognitive empathy, with some studies finding an incremental increase, whilst others find a decrease in cognitive empathy as the frequency of aggression increases. The current research was unable to provide support for either direction as no significant differences were found between the three behavioural groups. Reported perceived acceptance of reactive and proactive aggression appeared to be the most substantive difference between the three groups. There was a statistically significant incremental increase across the three groups on their reported level of perceived acceptance of the two types of behaviours, such that as the reported frequency of the use of behaviour increased, so did the reported level of acceptance. However, it should be noted that the internal consistency of the 'proactive aggression' questions in the scale employed to collect the data was only low-medium (Cronbach's alpha score of .58), identifying the possibility that the scale itself may not have obtained an accurate results. However, the direction of the finding (that as use increased so did perceived acceptance) supports a general consensus of an incremental increase in perceived acceptance for proactive aggression as the frequency of its use increases reported across the research literature (e.g. Cunningham and Selby 2007; Perkins and Craig 2006; Schultz 1999). This is not surprising given the importance of the role of social acceptance within the developmental period of adolescence (Alder and Alder 1998; Dijkstra et al. 2007; 2008; Eccles et al. 1998; LaFontana and Cillessen 2009; Larson and Richards 1991; Merton 2005). However, what has been neglected in the

research literature and was investigated by the current research is an understanding of children and adolescents perceived acceptance of reactive aggression. This is particularly important to understand because if the behaviour is being perceived as acceptable under certain circumstances, this may impact upon the children's willingness to exert self-control over their emotions and emotional expression if they believe that reactive behaviours are acceptable if you cannot control them. A summary of the findings of this study can be seen in Tables 31 and 32.

Table 31. A summary of the behavioural typology: Ranked order of lowest to highest group scores

	Low Frequency	Mod-high reactive, low-mod proactive	High Frequency
Reactive Aggression	1	2	3
Proactive Aggression	1	2	3
Affective Empathy	3	2	1
Cognitive Empathy*	3	2	1
Acceptance of Reactive Aggression	1	2	3
Acceptance of Proactive Aggression	1	2	3

*= no significant difference found between the groups, 1= lowest group score, 3= highest group score

Table 32. A summary of the ranked order of the proportion of participants categorised within each bully role across the three clusters

	Low Frequency	Mod-high reactive, low-mod proactive	High Frequency
Bully	1	2	3
Victim	1	3	2
Bully-Victim	1	2	3
Not involved	3	2	1

*= no significant difference found between the groups 1= lowest percentage, 3= highest percentage

Chapter 8 (data collected as part of Phase 2) addressed the final research questions of, 'What are children and adolescents social representations regarding why people become involved in negative interpersonal interactions? Do these perceptions differ between the behavioural groups'? The purpose of investigating these questions was two-fold. Firstly, adopting a qualitative method allowed participants to explain their understanding of why individuals are picked on by others. The use of a qualitative methodology allows the researcher to 'ask whether there is some limitation or inherent problem in the conceptual configuration of the field and to ask how else the problem might be understood' (Ellwood and Davis 2010: 85). Secondly, by investigating such social representations across the participant sample, this allows for the identification of micro level risk factors promoting and facilitating the continued use of such behaviours within the context in which they are being displayed and in identifying similar themes to those of other European and American studies, identify macro level influences. This qualitative study provided a unique addition to the research literature as past qualitative research investigating negative interpersonal behaviours has focused on understanding bullying specifically. This study identified that a shared understanding was held across the entire participant sample regarding the social representations of why children and adolescents believe people are picked on by others. A summary of these themes can be seen below in Table 33. The implications of the findings of this study suggest the need to address not only the behaviour of those utilising negative behaviours, but also the social representations of the wider peer group which may be supporting the perpetrators of these negative behaviours.

Table 33. Summary of the overarching and subordinate themes identified from the responses to qualitative questions relating to children and adolescents understanding of why people pick on others and why people are picked on by others?

Super ordinate Themes	Subordinate themes
Picking on others to maintain or elevate social status	
Picking on others as a form of entertainment	
'Victims are not one of us'	Victims are identifiably different
	Victims are easy targets
	Jealousy
	Dislike of the victim
Cycle of Aggression	The deserving victim
	The perpetrator has been picked on by others
Picking on others for positive affect	

9.4 Theoretical contribution to the understanding of the development of reactive and proactive aggression.

This section will detail the theoretical contribution the findings of the research presented in the current thesis to our understanding of risk factors associated with the development and continuation of reactive and proactive aggression.

9.4.1 Implications of the identification of three behavioural groups characterised by the combined use of reactive and proactive aggression

The findings of the current research identifying two groups characterised by their use of reactive and proactive aggression contributes to a debate within

psychological research literature regarding trajectories for the development of reactively and proactively aggressive behavioural repertoires. The typology models suggest distinct and qualitatively different risk factors for the development of the two types of behaviour. This suggests that the two are likely to develop and be displayed independently of one another. Whereas the severity model suggests that the risk factors for the two are not qualitatively different, rather they are quantitatively different; the same risk factors influence the development of both types of behaviour but the severity of which they are experienced influences whether or not proactive aggression is utilised (e.g. Crapanzano et al. 2010). The severity model pertains that the use of proactive aggression is an indicator of a more severe dysfunction rather than being the result of different developmental risk factors to reactive aggression. Support for the severity model comes from the repeated finding across studies that only one group of participants are identified as using both forms of behaviour and that this group consistently report using these behaviours most frequently compared to groups who predominantly display reactive aggression only (e.g. Chang, Fung and Gerstein 2013; Crapanzano, Frick and Terranova, 2010; Fite, Colder and Pelham 2006; Mayberry and Espelage 2007; Pang, et al 2013; Stickle, Martin and Thomas 2012; Unnever 2005). Furthermore, this group also consistently scores the highest on measures indicating psychological and/or social dysfunction. The unique findings of the current research therefore complicates this argument as more than one group reported using proactive aggression. The current research can only comment on one measures of empathy and perceived acceptance of the use of reactive and proactive aggression. However, the current findings would support the co-development of both types of aggression, but do not support that proactive aggression is an indicator of the most severe dysfunction.

9.4.2 Age and gender differences in the use of reactive and proactive aggression

Consistent with the findings of past research, gender was found to be a protective factor for the use of reactive and proactive aggression.

Archer 2004; Bas and Yurdabakan 2012; Card et al. 2008; Carbon-Lopez, Esbensen and Brick 2010; Connor et al. 2003; Dodge et al. 2006; Marsee, Weems and Taylor 2008; Mathieson and Crick 2010; Stickle, Marini and Thomas 2012). The findings that a greater proportion of females in the low frequency behavioural group support the consistent findings across the research literature that females display both reactive and proactive aggression less frequently than males (e.g. Bas and Yurdabakan 2012; Marsee, Weems and Taylor, 2008; Mathieson and Crick 2010; Stickle, Marini and Thomas 2012). However, the findings of the current research only partially support this as females were no more likely to be members of the high frequency group compared to males. Therefore rather than suggesting that males utilise reactive and proactive aggression more frequently than females, the findings of the current research would suggest that a females are more likely than males to utilise aggression infrequently, but are as likely as males to utilise frequent acts of aggression. However, it should be highlighted again that the High aggression cluster consisted of only small number of participants comparative to the other two groups ($n= 56$). A further explanation for the differences in findings between the current and past research may be due to the narrow age range of participants employed in the current research. The use of proactive aggression within the age group investigated may be indicative of what is perceived as normative behaviour by this age group. Research indicates short-term increases in the prevalence of proactive aggression at around the time of a school transition (e.g. Forrest et al. 2013; Pellegrini and Long

2002). Those whose behaviour was explored in the current research were aged 9-14 years old. Within this time period the children and adolescents in the sample change schools twice (at 11 and at 14 years). Adolescence is a time characterised by the need for inclusion within the peer group (Alder and Alder 1998; Dijkstra et al. 2007; 2008; Eccles et al. 1998; LaFontana and Cillessen, 2009; Larson and Richards 1991; Merton 2005) and the use of proactive aggression has been identified by past research to be perceived as an effective strategy for asserting social dominance and gaining popularity in the formation of new social hierarchies within each new school (Pellegrini and Long 2002; Sjistema et al. 2009; Vaillancourt and Hymel 2006). This perception is also supported by the repeated findings across further studies that those who utilise proactive aggression are often perceived as 'popular' by their peers (Caravita and Cillessen 2012; Cillessen and Mayeux 2004; Huitsing et al. 2010; Rodkin and Berger 2008; Rose, Swanson and Walker 2004; Salmivalli et al. 2005; Veensta et al. 2007). The presence of more frequent use of proactive aggression observed in the current participant sample should therefore be interpreted in the light that there are likely to be external social factors during this specific time period which *may* promote the use of proactively aggressive behaviour.

9.4.3 Social-cognition and the use of reactive and proactive aggression

Aspects of social cognition are particularly important to investigate in relation to the use of both reactive and proactive aggression. The Theory of Reasoned Action (Ajzen 1980) suggests that action is a culmination of individual and perceived social attitudes towards the use of behaviour (Pozzolini and Gini 2010; Rigby and Johnson 2006). Thus, action is a result of individual differences in cognition as well as the perception of support from the wider peer group.

As detailed in Chapter 2, aspects of social-cognition have been repeatedly found to differentiate those who frequently compared to infrequently utilise reactive and proactive aggression (e.g. Arsenio, Adams and Gold 2009; Choe et al. 2013; Crick and Dodge 1994; Horsley, de Castro and Van der Schoot 2010; Krettenauer and Eichler 2006; Malti 2007; Mayberry and Espelage 2007, Pouw et al. 2013). In Chapter 5, as part of their definitions of terminology provided to them, the children and adolescents perceived aspects of social-cognition (specifically empathy and a lack of control over the experience of anger which could lead to aggression), as mechanisms which may inhibit or support the use of reactive and/or proactive aggression. These aspects of social cognition were also identified in Chapter 2 and discussed further in Chapter 7. Although the themes of empathy and perceived acceptance of behaviour (for proactive aggression) have been identified previously an empirically investigated, significantly less attention has been paid to understanding children and adolescents social representations of the use of negative interpersonal behaviours. Historically, qualitative research investigating why children and adolescents believe people become involved in negative behaviour has focused on bullying. As detailed in Chapter 3, Section 3.4.1.1, research has identified that the term bullying can elicit specific and inaccurate schemas of those who would engage in such behaviour. By asking children and adolescents why they believe people pick on and are picked on by others (Chapter 8) themes emerged from the data that identify normative beliefs held across the participant sample relating to their perception of why this type of behaviour occurs.

Prior to the current research, no other studies have investigated differences in social cognition between more than one group characterised by the combined use of reactive and proactive aggression. Rather, past research has investigated differences between groups reporting the predominant use of one type of behaviour and compared them to a single group characterised by the combined use of proactive and reactive aggression (e.g. Dodge 1991; Little. 2003; Poulin and Bovin 2000; Vivaro and Brendgen 2005). As such the current thesis not only contributes to a very limited body of research aiming to increase our understanding of the behavioural pattern of the use of both reactive and proactive aggression (rather than investigating the two in isolation), but also serves to contribute to our understanding of the association between these behavioural pattern and socio-cognitive risk-factors which are useful in constructing intervention/prevention programmes aiming to reduce the use of negative interpersonal behaviours. The following section will discuss the implications of these findings for behaviour change.

9.4.4 The role of empathy in inhibiting the use of reactive and proactive aggression

Supportive of past research which has generally consistently found negative associations between affective empathy and the use of proactive aggression, the current research found that those within the group characterised by the most frequent use of reactive and proactive aggression indicated the lowest group score on the measure of affective empathy and the lowest frequency group reported the highest score (e.g. Dadds et al. 2008; 2009; Jolliffe and Farrington 2006; 2011; Mayberry & Espelage, 2007; Warden and Mackinnon, 2003). Those within the highest frequency group scored significantly lower than those within the low

frequency groups on the measure of affective empathy; although no significant differences were found between the low and medium and medium and high frequency groups. Given the high reported prevalence of the use of reactive aggression in the high frequency group, a lower reported affective empathy score is not unexpected. As detailed in Chapter 7, Section 7.2.1.1. Research suggests that those who engage in reactive aggression do so partially because of a reduced ability to understand and regulate their own emotions (Eisenberg 2000). Being unable to understand and regulate their own emotions indicates that they are likely to have a reduced ability to understand and furthermore vicariously experience the emotions of others (Eisenberg 2000).

Practically, this finding of a negative association between aggression and affective empathy which is supportive of past research could indicate one of two things. Firstly, this could indicate a genuine reduced ability to mirror the emotions of others. This has been supported by research finding differences in brain physiology and activity between those reporting the ability to and not to be able to vicariously experience the emotions of others (Blair 2005; Marsh and Cardinale 2012; Coccaro et al. 2007). Alternatively, it may demonstrate that these individuals have learned strategies by which to 'switch off' their emotional response so that they do not experience the negative emotions of others, adaptive if living in an abusive home environment for example (Pagani et al. 2010). This reduced ability to feel the emotions of others has important implications upon the way in which people interact with others. The findings of the current research indicate that reflecting on the emotions of others is not likely to deter those most frequently aggressive children from utilising harmful behaviours towards others because they appear to have a

reduced ability to feel the emotions of others. Interestingly, although participants in the low and high frequency groups indicated a significant difference in the ability to experience the emotions of others, what was not different across the groups was the reported ability to predict the emotions of others (to cognitively empathise). What this suggests therefore, is that those who most frequently utilise aggression are as able as those who infrequently use such behaviour to predict the emotions of others but to not feel the reflective negative emotion of a recipient of an attack, as such are less likely to be inhibited by the anticipation of feeling negative affect upon hurting others. Relating to the implications of this finding upon the construction of intervention/prevention strategies in schools to reduce the prevalence of reactive and proactive aggression will be discussed further in section 9.5.

9.4.5 The role of perceived acceptance and social representations of the use of reactive and proactive aggression

The finding that as the frequency of reactive aggression increased, so did the perception of the social acceptance for the use of this type of behaviour, contributes to our understanding of why the use of reactive aggression may continue throughout childhood and adolescence. Theoretically, based upon the Social Information Processing models of aggressive behaviour (Crick and Dodge 1994; Huesmann 1988), attitudes towards the use of reactive aggression should not influence the use of such behaviours, as they are enacted before the latter processing of the considerations of the consequences of one's actions (Crick & Dodge 1994; Huesmann 1988). However, the limited number of studies conducted investigating the perception of the use of reactive forms of aggression suggest a level of justification or acceptance is perceived to be held for the use of reactive aggression

when there is the perception that the individuals displaying such behaviours cannot control their actions (Chapter 5; Singh 2011). In Phase 1 of the data collection (reported in Chapter 5), a number of participants pathologised the use of others' reactive forms of behaviours, attributing the causal factor for its use to an individuals' temper or behavioural condition such as Attention Deficit Hyperactivity Disorder (ADHD). Participants also pathologised their own use of negative behaviours by attributing causality to such things as their 'temper'; thus removing a level of personal accountability and control for their actions. These findings also support those of Singh (2011) who, although only specifically investigating ADHD, found that children were justifying their peers' use of negative behaviours if they had been diagnosed with this condition. Again, reflective of the findings observed within Chapter 5, Singh (2011) also found that children were utilising this label to justify their own use of negative behaviours towards peers, despite not being diagnosed with the condition. Although in the current research not widely accepted by the majority of participants, a school environment, within which negative behaviour is pathologised and thus, justified or excused by sub-groups, may have a profound effect upon the continuation and development of the use of reactive 'type' behaviours. From a developmental perspective, if the behaviour of certain individuals is being pathologised, there is the risk that children will learn that *some* individuals cannot control their behaviour. However, without guidance they will not necessarily understand what differentiates these individuals from themselves. There is then the danger that this may impact upon children's willingness to exert self-control over their emotions and emotional expression as they may perceive that it is socially acceptable to display reactive aggression when their emotions are difficult but not beyond their capability to control.

The identification of a level of perceived control and accountability for the use of emotionally reactive forms of aggression by sub-groups of children and adolescents (Chapter 5) raises the question of whether or not, as was found by Singh (2011), children and adolescents are utilising reactive 'type' behaviours in a proactive manner. If the perception is that others are accepting of these types of behaviours whereby the perpetrator lacks control, children and adolescents may be utilising reactive type behaviours in a proactive manner as a perceived viable alternative to the use of socially rejected proactive forms of aggression (e.g. Dijkstra et al. 2008). It is therefore important for future research to investigate children and adolescents' understanding of the level of control individuals have over their behaviour and how they react to negative behaviour displayed by individuals perceived to have limited control to contribute to a very limited body of research investigating children and adolescent's perception of the use of reactive aggression.

Within the developmental period of late childhood to early adolescence, fitting into a peer group is a key and central goal for individuals (e.g. Alder and Alder 1998; Dijkstra et al. 2007; 2008; Eccles et al. 1998; LaFontana and Cillessen 2009; Larson and Richards 1991; Merton 2005). Research consistently observes negative social outcomes for those displaying both reactively aggressive (e.g. Dodge, Coie, Pettit and Price 1990; Schwartz et al. 1998), and proactively aggressive behaviours (e.g. Dodge et al. 1997; Smith et al. 2011). Social Information Processing models (e.g. Crick and Dodge 1994; Huesmann 1988) state that individuals consider the potential costs and benefits of behaviours before enactment. This process requires reflection upon the outcomes of past use of behaviour and also the observed outcomes of

others' use of such behaviours (Social Learning Theory, Bandura 1977). Therefore, displaying behaviours which are disapproved of by the peer group would appear counterproductive to achieving the integral goal within the period of late childhood through to adolescence of gaining and maintaining membership within a peer group (Dijstra et al. 2008; Veenstra et al. 2010) and is therefore likely to have an effect on an individual's attitude towards the use of aggressive behaviours. However, the findings reported in Chapter 8, obtained from the qualitative line of questioning in Phase 2 identified that across the participant sample although there was a decrease in the perceived acceptance across the three groups, what was similar across all three was the social representations of why people become involved in incidents whereby one child picks on another. These included the perception that some individuals see the use of aggression as a tool to maintain or enhance social status and aggression is used as a form of entertainment. Therefore these themes identify shared perceptions which may promote some to engage in aggressive behaviour in order to achieve these perceived positive outcomes.

From a Critical Realist approach, in order for researchers to gain a better understanding of the contributing factors or mechanisms which underlie the use negative interpersonal behaviours, it is important to understand how groups facing/utilising behaviour construct meaning behind its use. As detailed in Chapter 2, the development of reactive and proactive aggression is multi-factorial, with influences on the development of behaviour including risk factors on an ontogenetic through to macro system level. Providing the opportunity for children and adolescents to explain why they believe others would engage in negative interpersonal behaviours allows for the investigation and identification of shared

social representations across groups which may be facilitating or inhibiting the perception of the social acceptance for the use of such behaviours. In the current thesis by asking open ended questions the research went further than solely identifying the prevalence of the use of such behaviours (which was done within Chapter 6), and level of perceived acceptance (see Chapter 7) to then be in a position to suggest what specific social representations need to be addressed across a group level in order to affect behavioural change.

9.5 Implications for the construction of intervention/ prevention strategies to reduce the prevalence of reactive and proactive aggression in schools

The current research has identified the need to address not only proactive forms of aggression, including bullying, but also reactive forms of aggression being utilised in schools. Furthermore it has been identified by past and the current research that risk factors across different proximal levels to the individual need to be addressed if educators are to implement effective interventions to reduce the prevalence of these behaviours (see Chapter 2). A challenge facing schools and their ability to construct effective strategies to reduce the use of reactive aggression and proactive aggression is that the risk factors which have contributed to the development of aggressive behavioural repertoires vary between individuals. Furthermore they are developed and reinforced across different proximal levels of influence making it difficult to identify the individual needs of children and to construct strategies which will be effective for the majority. However, similarities in social cognition are repeatedly found in those who display reactive aggression (e.g. hostile attribution biases) compared to proactive aggression (who report favourable attitudes towards the use of aggression, have a limited ability to affectively

empathise and have a larger repertoire of aggressive compared to non-aggressive conflict resolution strategies). As such, addressing the aspects of social cognition which promote the use of these behaviours appears to be a way of mediating the external influences promoting the use of reactive and proactive aggression within the school environment. The current research, in its focus on socio-cognitive variables (empathy, perceived acceptance and social representations of aggression) associated with the use of reactive and proactive aggression, has identified factors relating to how children interact with others and the role of the peer group in promoting the use of negative interpersonal behaviours; factors which can be addressed within schools. The following section will detail how the findings of the current research should be applied to the identification of those who use reactive and proactive aggression in schools and to the development of effective techniques to include within prevention/ intervention strategies in schools to reduce the prevalence of the use of negative interpersonal behaviours.

9.5.1 Implications of the use of both proactive and reactive aggression and identifying bullying behaviour

A practical implication of the findings of the current research concern the identification of those who may be at risk of both perpetrating harmful interpersonal behaviours and experiencing bullying. The findings of the current research identify that displaying either reactive or proactive aggression is an indicator that an individual is also likely to be using the other form of behaviour. The important implication of this is that intervention/prevention programmes within schools need to be addressing both forms of behaviours. As detailed previously, although increased attention is being paid to identifying and reducing/preventing bullying (a specific sub-

type of proactive aggression) behaviours within schools, the findings of the current study and others (e.g. Crapanzano et al. 2010; Fossati et al. 2010; Fung et al. 2009; Mayberry and Espelage 2007; Stickle et al. 2012), suggest that reactive forms of aggression are more prevalent than proactively aggressive behaviours. Therefore it is important, that with the increased attention on bullying, a sufficient focus is still being paid to reducing the prevalence of more general forms of proactive and reactive forms of aggression. The review of the risk factors for the development of reactive and proactive aggression presented within Chapter 2, would suggest distinct developmental pathways to the development of these types of behaviours (e.g. Calvete and Orue 2012; Crick and Dodge 1994; Heckens et al. 2010; Hubbard, McAuliffe, Marrow and Romano 2010; Putman et al. 2010; van Honk et al. 2005). However, the overlap in the use of reactive and proactive aggression identified by the current research would suggest that these risk factors co-occur. Therefore, it is important that intervention/prevention strategies employed to reduce the prevalence of negative interpersonal behaviour included strategies targeting both types of behaviour.

What the findings of the current research also identify is that those who display both reactive and proactive aggression are also at a risk of both perpetrating and being the victim (bullies and bully-victims) of bullying behaviours. There was a significant incremental increase in reporting perpetrating and experiencing bullying (bully-victim) across the groups, such that the low frequency group were the least likely and the high frequency most likely to report being a bully-victim. This finding is consistent with past research suggesting that those who display reactive aggression are at an increased risk of being bullied themselves (Buxton, Florell and Gore 2013;

Camodeca et al. 2002; Salmivalli and Issacs 2005; Salmivalli and Helteenvuori 2007). As such, the display of reactive forms of aggression should be viewed as an indicator of an increased risk of engaging in bullying as both the perpetrator and victim. This finding has important implications regarding the needs of those who display reactive forms of aggression. As discussed in Chapter 2, Sections 2.2.2. and 2.2.3. reactively aggressive behavioural repertoires can develop through sustained exposure to a hostile and aggressive home or community environments (e.g. Calvete and Orue 2011; Huesmann 1998), thus children become hypersensitive to potential environmental threats. This reaction is adaptive to an environment where their safety is compromised (e.g. Scarpa et al. 2008). However, when reacting aggressively in a school environment whereby threats are misinterpreted, this may appear to others to be irrational behaviour and this reaction may be preyed upon by peers. Specifically, they may be identifiable as easy to provoke a reaction from (a theme identified from the data reported in Chapter 8) and so become the targets of attacks or deliberate provocation. However, in becoming the targets or repeated attacks this is likely to serve to perpetuate the cognition of a hostile environment and extend this perception to the school environment. Thus perpetuating the behaviour and undermining attempts by school personnel to change their reactive response to perceived threats if this is done in isolation of addressing the behaviour of the peer group who may take advantage of their reactive response. As such it is necessary to both educate the wider peer group in addition to addressing the needs of reactively aggressive individuals and their perception and reaction to threat.

The findings of the empirical studies conducted and presented in the thesis suggest further important implications for the design of intervention strategies aiming

to reduce the use of reactively and proactively aggressive behaviours in schools. These will now be presented.

9.5.2 Caution should be taken when teaching children to empathise

The findings of the current research identify that caution should be taken if teaching children and adolescents the emotional consequences of the use of proactive aggression. The effectiveness of this method is based upon the presumption that the perpetrators of proactive forms of aggression are not aware of the negative affect that they will inflict on others. However, the findings of the current research and those of others (e.g. Batanova and Lukas 2011; Espelage et al 2004; Jolliffe and Farrington 2006; 2011; Murray-Close et al. 2006; Pouw et al. 2013) have identified that those who utilise negative behaviours most frequently are as competent in predicting how another would feel comparative to less frequent perpetrators (as indicated by the group cognitive empathy scores reported in Chapter 7 which did not differ significantly between the three groups). What differed between the behavioural groups in the current research and others is that the most frequent perpetrators scored lower than those who less frequently use aggression on measures of affective empathy; the ability to vicariously experience the emotions of others (e.g. Arsenio et al. 2009; Barchia and Bussey 2011; Crick and Dodge 1996; Gini 2006; Gini, Pozzoli and Hauser 2011; Jolliffe and Farrington 2006; Lovett and Sheffield, 2007; Mayberry and Espelage 2006; Scarpa et al. 2010). It is this vicarious experience that the most frequent perpetrators report to lack that is suggested to inhibit the use of harmful behaviours against others (e.g. Mayberry and Espelage 2007, Pouw et al. 2013). Further support that the most frequent perpetrators may not be affected by the knowledge of the negative effect being the victim can cause

comes from the finding in Chapter 6, that 25.5% of those in the high frequency groups are bully-victims. This highlights that a quarter of those who most frequently utilise proactive aggression are already aware of the negative emotional consequences of the use of aggressive behaviours from the perspective of the victim as they themselves have been victimised. Therefore they are as aware of the emotional consequences of being the target of an attack as could be possible. This indicates that they do not need to be informed of the emotional consequences through formal education. This finding would also suggest therefore, that the predicted negative emotions of others have little effect on deterring their use of aggression towards others. Therefore, by teaching this sub-group who have a reduced ability to affectively empathise the psychological consequences of their actions upon the victim, this may serve only to expand their behavioural repertoire if they are being taught about the consequences of behaviours which they have not themselves used/experienced. What would be necessary to elicit behaviour change would be to teach children and adolescents to *experience* the emotions of others (e.g. Dadds et al. 2008; 2009; Jolliffe and Farrington 2006; 2011; Mayberry and Espelage 2007; Warden and Mackinnon 2003).

It is questionable both practically and ethically whether affective empathy can be increased. To increase individuals' ability to vicariously experience the emotions of others would require the individual to 'learn' to experience the desired emotion themselves. The first limitation of this approach is highlighted by research which suggests that our ability to vicariously experience the emotions of others is dependent in part, upon our own ability to experience these emotions ourselves (e.g. Buchanan et al. 2010). Neurological research has identified different brain

physiology and activation between those who report a reduced ability to experience the emotions of others compared to those who report the ability to affectively empathise (Coccaro et al. 2007; Dolan 2010; Kruesi et al. 2004; Marsh and Caedinal 2012; Sterzer et al. 2005). Therefore, this suggests that neurological changes need to be elicited in certain individuals in order for them to be able to experience emotions of others. A further practical implication relates to children and adolescents' willingness to engage in education that would increase their ability to experience the negative emotions of others. For individuals who have learned that the use of aggressive behaviour is an effective way by which to attain goals (as was identified in Chapter 8), a lack of vicarious response is adaptive in order for them to continue to benefit from the use of such behaviours. Therefore, it needs to be questioned what motivation these individuals would have to learn to vicariously feel the negative affect being experienced by their victims and thus limit the benefits of using such behaviour. If, as research suggests, the ability to experience the emotions of others is reflective of our ability to experience emotions ourselves (Bauchanon et al. 2010), there are then also ethical implications of teaching children to experience emotions such as fear; one of the most influential emotions in deterring an individual from engaging in aggressive behaviour (Blair 2005). Unless suffering from genetic or conditions such as those on the Autistic Spectrum scale which limit the ability to experience and identify the emotions of others, the development of strategies to block out the emotions of others or the under development of regions of the brain associated with experiencing the emotions of others (particularly negative emotions such as fear), are likely to have been or still be adaptive for the child in some way (Pagani et al. 2010). For example, for a child coming from an abusive home environment, a blunted ability to experience negative

emotions such as fear are likely adaptive for reducing long term mental health issues such as anxiety which are likely to occur due to prolonged exposure to such a volatile home environment (Pagani et al. 2010). Strategies aiming to reduce children and adolescents' use of negative behaviours towards peers by increasing an individual's ability to feel the emotions of others (if this is possible), would therefore be unethical for those who have developed the ability to block out the emotions of others as a self-protective mechanism. The practical and ethical implications of changing affective empathy would therefore suggest the need to investigate alternative strategies for encouraging behaviour change.

9.5.3 Addressing perceptions of the social acceptance of proactive aggression: the role of the wider peer group

The findings of the studies presented in Chapters 5, 7 and 8 that identified/ investigated children's and adolescent's social representations and perceived acceptance relating to the use of reactive and proactive aggression provide an important insight into how the wider peer group may promote the use of negative interpersonal behaviour. In Chapter 7 a positive association was found between the use of and the perception of the social acceptance of the use of both reactive and proactive aggression, although it should be highlighted that this level of acceptance was not held by the majority. At a time characterised by the need to belong and fitting in with the peer group, perceived social norms held by the wider peer group are a particularly influential factor in the decision to behave in a certain manner during adolescence, as behaviour which deviates from the norm may lead to rejection from the peer group (Alder & Alder, 1998; Dijkstra et al. 2007; 2008; Eccles et al. 1998; LaFontana and Cillessen 2009; Larson and Richards 1991; Merton

2005). The findings of Phase 1 (Chapter 5), which identified a generally negative perception of the use of proactive aggression (which is reflective of past research), would initially suggest that the use of proactively aggressive behaviours would be counterproductive to the aim of fitting into the peer group. However, as previously reported, part of Phase 2 (reported in Chapter 7) an association was found between the frequency of utilising reactive and proactive aggression and the perceived acceptance of their use. Furthermore emergent themes from Phase 1 (chapter 5) and Phase 2 (chapter 8) identified a perception that the use of aggression was a means to achieve popularity. This suggests that those utilising such negative behaviours are likely to be receiving some form of feedback from their peers to suggest that they are accepting of these behaviours, feedback that needs to be addressed if behaviour change is to be elicited.

The findings of Phase 2 (reported in Chapter 7) indicate a perceived level of acceptance by some, of the use of proactive aggression by the wider peer group. It is important to address this perception as such discourses may maintain the use of such behaviour. Past intervention based research supports the effectiveness of readdressing perceived social norms that are accepting of the use of bullying in reducing the use of such behaviour (Perkins et al. 2012). Therefore intervention and prevention efforts would benefit from incorporating strategies such as displaying posters around the school making it publically known that the use of aggression is not supported by the wider peer group, as was done and shown to be effective by Perkins et al. (2012). However, in order for such intervention strategies to be effective the perceptions and attitudes which are contributing to why children and adolescents believe they are supported in their use of such behaviours also need to

be addressed. As part of Phase 2 (Chapter 8), participants were asked to comment on why they believe others become involved in interactions whereby one individual is picked on by others. Shared perceptions held across the participant sample were identified that may serve to maintain the use of proactive aggression. The implications of the findings of the qualitative research upon the construction of effective intervention strategies aiming to reduce the prevalence of reactive and proactive aggression in schools will now be discussed.

De-incentivising the use of proactive aggression

Themes from the qualitative data collected as part of Phase 2 (Chapter 8) exploring why children and adolescents perceive others become involved in incidents whereby one child picks on another support those found in past qualitative research conducted in countries other than the UK which have explored bullying specifically. These themes indicated that children and adolescents held the social representation that outcomes which *could* be perceived by some as positive, could be achieved from the use of proactive aggression (e.g. Frisén et al. 2007; 2008; Guerra et al. 2011; Thornberg et al. 2012). Congruent to the needs of the developmental period of adolescence, participants indicated that the use of proactive aggression could be perceived by some as a tool to achieve or maintain social status above or within the peer group and or as a form of entertainment. In turn having the perceived potential to create group cohesion; thus acting as an incentive to adopt and continue using such behaviours. Therefore, interventions within schools need to de-incentivise the use of such behaviours. Based on socio-cognitive models of behaviour such as Social Learning Theory (Bandura, 1977) behaviour is learned through conscious and unconscious observation of the outcomes of behaviour. If popularity to be seen or

perceived across a group to be achieved by using aggressive behaviour (as has also been supported by quantitative research on bullying; e.g. de Bruyn, Cillessen and Wissink 2010; Caravita and Cillessen 2012) children are more likely to adopt these strategies in the future if they wish to achieve this outcome. Social Information Processing models, similarly postulate that a conscious analysis of the possible costs and benefits of the use of behaviour is engaged in before choosing to use a particular behaviour to achieve a goal (e.g. Crick and Dodge 1994; Huesmann 1988). If the likelihood of punishment (be that from school personnel or rejection from the peer group) for the use of aggressive behaviour is greater than that of achieving popularity (a reward), it is less likely that aggressive strategies will be employed to achieve this goal.

De-incentivising bystander support for the perpetrators of proactive aggression

As popularity is determined by perceived social visibility (Parkhurst and Hopmeyer 1998), efforts need to be made to ensure that the wider peer group do not react to the use of aggressive behaviour in a way that suggests to the perpetrator that they are achieving social visibility. Such supportive bystander behaviours include actively joining in by laughing, shouting encouragement or joining in with an attack when it happens. They can also include passive support such as standing and watching an attack (in doing so not actively showing disapproval for the behaviour) (e.g. Salmivalli and Voeten 2004). To de-incentivise these behaviours across the wider peer group, school policies should extend their punitive sanctions for involvement in harmful behaviours to bystanders who actively and passively encourage the perpetrators. To address the perception that aggression is a viable

form of entertainment at school, the aforementioned actions to de-incentivise the use of negative behaviours would also be useful.

Teaching conflict resolution strategies

To address the perception identified in Chapter 8 that proactive aggression is used in response to provocation and as part of a cycle of aggression, teaching children and adolescents conflict resolution strategies may be beneficial in reducing the use of negative behaviours used in retaliation to perceived wrong doing. Such strategies have been found to be successful in reducing the prevalence of bullying in intervention studies (e.g. Heydenberk et al. 2006).

Integrating those perceived as different into the wider peer group through group work

The perception that victims are identifiably different or vulnerable has been repeatedly observed across the qualitative research literature investigating bullying (Frisén et al. 2007; 2008; Geurrera et al. 2011; Thornberg et al. 2011; 2012) and was also identified in both Chapters 5 and 8 as part of both Phases 1 and 2 of data collection (which investigated general forms of proactive aggression). This perception may lead to the wider peer group morally disengaging with the plight of the victims (Bandura, 2002). Although efforts are made within schools to celebrate diversity and should continue to do so by also promoting children and adolescents to embrace such differences, at a time a time when similarities with an individual's peer group reinforce ones changing self-identity (e.g. Nesdale 2005) and contribute to their feeling of self-worth (e.g. Verkuyten 2007) it is integral that efforts are also made to highlight the similarities of those who are perceived as different to the wider peer group. With increased awareness and internalisation of the knowledge that

fundamentally everybody shares certain characteristics, the likelihood of children seeing those who are 'different' as 'out-group' members and morally disengaging (Bandura 2002) with their plight as victims is likely to decrease. Strategies such as teachers regularly incorporating group activities within class time whereby students are allocated by the teacher into groups and thus working with those other than those within their peer group will ensure that students are integrating with all members of the class, including those who they perceive as different and would not ordinarily associate with. This will allow for the identification of commonalities and friendship building between those who would not ordinarily associate with one another. The effectiveness of such strategies has been supported by past research (Hong and Espelage 2012).

9.5.4 Implications of the findings on reducing the prevalence of reactive aggression.

The findings of the current research, particularly those which identify a lack of personal control and a level of justification for the use of reactive aggression, have important implications upon our understanding of the use of 'reactive type' behaviours and education that should be provided to children regarding this type of behaviour. With the increase in anti-bullying education within schools in England, Wales and Northern Ireland as necessitated by The Education and Inspections Act (2006 [89]: 1.b, 3, 5), systematic proactive forms of aggression are promoted within schools as socially unacceptable and reprimanded by school personnel. However, if reactive behaviours are being perceived as being out of the control of individuals, as was demonstrated in the data collected in Phase 1, when enacted by certain individuals, there is the danger of these behaviours being perceived as a viable

alternative to proactively aggressive behaviours. It is also likely to be the case that if children perceive this type of behaviour as acceptable, they may be less motivated to assert self-control over their behaviour. This perception is particularly problematic if widely held by children between the ages of 3-7 years as this period is suggested to be a critical period for children to learn strategies for inhibition control (e.g. Jones et al. 2003; Kirkham et al. 2003). Given the increase prevalence of the diagnosis of behavioural conditions such as ADHD, with an increase in prevalence from 6.9% of school aged children in 1998, compared to 12.2 % in 2010 (Holden et al 2013), an increasingly greater proportion of children and adolescents are being exposed to the behaviour of children whose behaviour is characterised by a limited level of control. It is therefore important that the wider peer group understand the implications of diagnoses of conditions characterised by limited behavioural control. There is the possibility that, the perception of a level of acceptability coupled with an association between the use of negative behaviours and achieving social goals may promote the development of the use of reactive type behaviours being utilised in a proactive manner. Dependent upon the way in which others react to the behaviour displayed by those who are perceived to lack control of their behaviour, there is the risk that peers will begin to build a schema of the outcome expectancies of this type of behaviour (for example are they punished or rewarded by the peer group). This is an area which needs exploring further by explicitly questioning children and adolescents about their understanding of reactive aggression and behavioural conditions they may encounter at school, including their experience of how others around them react to such behaviour. If it is the case that the wider school population hold a level of acceptance or justify this behaviour by perceiving it to be out of the control of individuals, this suggests a two-fold approach is necessary to reduce the prevalence

of reactive forms of behaviour. Firstly, children and adolescents need to receive education about the implications of reactive aggression, including about behavioural conditions characterised by the use of reactive aggression, so that attitudes pertaining to the acceptability of the use of negative behaviours are addressed and reduced. This needs to be addressed via formal education but also by example. It is important that children and adolescents do not observe that individuals displaying reactive aggression receive more lenient punishment (from both school personnel and peers) for using negative harmful behaviours towards others. Secondly, formal education addressing techniques by which children and adolescents can learn to control their negative feeling that lead to the use of reactive behaviour would be beneficial in order to address cognitions that behaviour is uncontrollable.

9.6 Limitations of the current research and direction for future research

9.6.1 Limitations of the current research

Shared method variance

A consideration that should be taken when interpreting the findings of the current research is that all of the data in Phase 2 was collected via self-reports alone. A potential confound of collecting all of the data via self-reports is shared methodological variance may affect the reliability of the data. This refers to finding a reported over inflated or deflated estimate of the relationship between the variables measured (leading to Type I or II errors) (Podsakoff, MacKenzie, Lee and Podsakoff 2003). A critical literature review of the effects of and remedies for shared method variance was produced by Podsakoff, MacKenzie, Lee and Podsakoff (2003). From their review of the literature they suggest methodological considerations in the

design of questionnaires to reduce the likelihood of variance. They suggest that researchers should, where possible, reduce the potential of social desirable responding, ensure that the items are easy for participants to understand and are not ambiguous and to reduce evaluation apprehension. Chapter 3, Section 3.4.2.1. addressed methods for reducing socially desirable responding, which was further facilitated by removing language which has been shown by past research to promote biased responding (see Chapter 3, Section 3.4.1.1). Item complexity and ambiguity were assessed by asking teachers to read through the questionnaires (as stated in Chapter 6, section 6.3.4). Attempts to reduce evaluation apprehension, as also detailed in Chapter 6 section 6.3.4, were made by collecting anonymous data, and where the questionnaires were completed over two sessions, envelopes were provided for participants to place their questionnaire in to and seal between sessions.

However, even with these measures in place, there is the possibility that social desirability may have affected the participants' truthfulness when responding to the questionnaire items due to the nature of the socially undesirable behaviours being measured. However, as detailed in Chapter 4, self-report data is likely to be the most accurate way of measuring reactive forms of aggression as others do not necessarily have an accurate understanding of the motivation behind another individual's behaviour (Farmer et al. 2003; Hamm et al. 2011; Hardy, Bukowski and Sippola 2002; Phillips and Cornell 2012; Schuster 2007). It is this underlying motivation that differentiates reactive and proactive forms of behaviour. This motivation is less likely to be understood by others (Raine et al 2006). As such a self-report method was deemed the most appropriate method for the purpose of the

current research. However, as found by Bouman et al (2012), in comparison to self-reports, peers reports were a stronger predictor of perpetrating bullying and characteristics associated with bullying others. However, this was not the case for reported victimisation whereby peer and self reported victimisation equally predicted victimisation and associated characteristics. As the current research involved participants reporting on their perpetration of negative behaviours as well as their victimisation, additional peer reported data would have been useful in order to identify those who perpetrate negative behaviours who may not have reported their own use of such behaviour.

The scales selected and modified to collect the data

An aspect of the methodology which should be considered when interpreting the results was that the scale employed to identify the prevalence of the use of reactive aggression (RPAQ; Raine et al. 2006) did not explicitly ask participants to reflect upon the level of control they had when enacting each of the behaviours. As such participants indicated their use of reactive type behaviours, but it cannot be known the level of control participants had in the situation the items pertained to. As such the current thesis measured the use of reactive type behaviours, not uncontrollable reactive aggression. Furthermore, this particular scale, like others measuring both reactive and proactive aggression (e.g. Little 2003) is limited in the types of proactive behaviours measured. For example, there is only one item measuring relational proactive aggression (see Appendix 9 for a copy of the scale). As such this scale, like other reactive-proactive scales is not particularly sensitive to differentiating type of proactive types of aggression. However, interestingly the characteristics of the groups identified in the current research do follow a similar

pattern to those found by Crapanzano et al. (2010), who did utilise a scale that differentiated relational and physical types of aggression. When isolating relational behaviours, they found three groups characterised by Low aggression, Moderate aggression and High aggression. Similarly to the current research, all three groups were characterised by their use of both reactive and proactive behaviours. An important consideration should be made of the reliability of the proactive aggression data collected and may partially explain the disparity between the characteristics of the 'middle' aggression group compared to past research. The Cronbach's alpha coefficient for the proactive items on the scale was not satisfactory at .58. As such this suggests that there was not satisfactory internal consistency on this group of questions.

The scales were also modified for the purpose of the research. Although the purpose of this was explained and justified in Chapter 7 Section 7.3., it should be acknowledged that there are also potential confounding effects of doing so. Firstly, the RPAQ (Raine et al. 2006) was modified to ask participants to report their perception of acceptance for the behaviours they previously reported utilising. A potential confound in asking participants to reflect upon the same set of behaviours twice is that it may elicit a consistency effect. This describes the tendency for people to want to appear consistent in their cognitions and attitudes and can lead to reported effects that may not actually exist (Podsaff et al. 2003). However, given the consistent finding of past research of a positive association between acceptance and the use of negative interpersonal behaviours, this suggests that on this occasion the positive association found is likely to a real one.

The scales were also modified by changing the frequency of the use of behaviour that the participants were asked to reflect upon. As detailed in Chapter 6, Section 6.3.3. the original time scales of both the RPAQ (Raine et al. 2006) and the Maynard and Joseph scales were modified due to the vague time reference on the original scales (for the RPAQ this was, 'never', 'sometimes', and often). There are both positive and negative implications of this change. As described in Chapter 6, Section 6.3.3., the purpose of changing the time scale was twofold. Firstly, there was ambiguity in the original time scale as; 'often' to one participant may have been defined differently between participants, thus reducing the reliability of the data collected. Secondly, the time reference selected reflected the guidance provided by Solberg and Olweus (2003) who stated that a criteria for bullying behaviour should be that it occurs more than 2-3 times a month. It is acknowledged that this may reduce the reliability of prevalence rates collected if the time scale is different to that of past research (as demonstrated in Chapter 3, Section 3.4.1.2). However, for the identification of the behavioural clusters, identifying prevalence per se, in terms of identifying a percentage of a sample involved in different roles was not the primary aim. Rather, the purpose was to identify behavioural similarity across a sample. However, for the bullying prevalence rates it should be made clear that participants were asked to reflect on their own experiences over the past month in this instance, and that the prevalence figures obtained are likely to fluctuate if they were measured over a different time frame (for example over a week compared to year long time period; See Chapter 3, Section 3.4.1.

There are limitations of the scale employed to identify the prevalence rates of bullying which limit the accuracy of the prevalence rates obtained of those who bully

others. Firstly, the wording of the scale does not differentiate repeated acts of aggression against the same individual as opposed to multiple acts of aggression against different individuals. Furthermore, although within some of the scale items it is stated that participants are to comment upon 'purposeful' behaviours, the element of purposefulness is not present in all items. As such the scale may not reliably differentiate perpetrating bullying to more general acts of aggression which do not fall under the definition of bullying. However, the scale is useful in identifying those who fall victim to aggressive behaviours and identifying those who are both the victims and perpetrators of repeated aggression.

Where the data were collected and by whom

A further aspect of the methodology which should also be considered when interpreting the findings is where the data were collected from and who administered the questionnaires. All of the data were collected from schools whereby the head teacher held a keen interest in understanding the nature of aggression in their school to the extent that they wanted to participate in the research. As such, there was likely to be more active promotion and implementation of anti-bullying and aggression strategies in place within these institutions, in comparison to other schools that did not respond to the invitation to participate. The two secondary schools the data were collected from were situated within relatively affluent suburban areas where the participants were less likely to encounter community aggression. As detailed in Chapter 2, exposure to community aggression is a risk factor for the development of the use of aggressive behaviour (e.g. Chaux, Moleno and Podlesky 2009). It is also likely that the participants' perceptions as to why children and adolescents become involved in interactions whereby one person picks on another, as was investigated in

Chapter 8, differ across different samples due to factors unique to different schools. These may including the level of aggression in the community the school is situated. In order for behaviour change strategies and intervention to be successful, it is important to understand the behaviour and attitudes held by the sample of children and adolescents whose behaviour needs to be changed, but also those of the wider peer group within which the aggressive behaviour is being displayed. This study should therefore be replicated in areas of lower socio-economic status and/or where there are higher levels of community aggression, as the findings of the current study are not necessarily generalisable to other groups.

A further potential limitation is that the class teachers administered the questionnaires. This may have led to socially desirable responding by some of the participants. Knowing that their teacher would be present when completing the questionnaire and would have their data afterwards, participants may have felt pressure to show themselves in a favourable light and not being honest about any undesirable behaviours they had engaged in. Future data collection of this nature should be done by researchers whom the participants do not know. The teachers also selected, from those who volunteered, those who took part in the focus groups for Phase 1 of the data collection. Teachers were not asked to comment on how and why they selected the individuals they did to take part. As such it may have been the case they were selected for a particular purpose. For example that they thought that the selected individuals would have a good understanding of the list of terms to be discussed. In future the researcher should randomly select the individuals to take part to reduce the likelihood of bias.

The age range of participants should be considered when generalising the results. The current research derived information about the use of reactive aggression and proactive aggression from a sample limited to a very narrow age range and so the findings are not necessarily generalisable to older or younger children. It was the intention to collect data from children aged 9 years and up to the age of 16 years, therefore collecting data from participants across all stages of full-time compulsory education in the UK. However, only participants aged 9-14 years agreed to participate. All schools in Leicestershire and Coventry who accommodated adolescents aged 14-16 years were invited to participate in the current research. Knowing the pressures faced by this age group in terms of exams, these high schools were invited to participate during the first and last terms of the school year as it was acknowledged that it was unlikely that schools would allow pupils to take time out of lessons during revision periods. Despite this, none of these schools accepted the invitation to participate. Similarly, it was also difficult to recruit primary school-aged children. Of the 70 primary schools contacted, only three participated in the research. This leads to important practical limitations in our understanding of the use of aggression by participants in these younger and older age groups. It would be of value to understand the reasons why these schools are unwilling to participate in research, especially that which will provide them with information about the behaviour of their students. This may in itself be a reason for their lack of interest in participating. It is particularly important for schools to have an accurate understanding of the level of aggression being utilised across their student population for pupil safety. If schools are unaware and unwilling to understand the behaviour of their pupils they will not be in a position to allocate appropriate resources to address behaviour issues if necessary. Conversely, the data collected

for Phase 1 was acquired from participants spanning a much broader age range (aged 11-18 years). The primary purpose of collecting the data for Phase 1 was to gain a greater understanding of the definitions children and adolescents attach to terminology utilised to describe negative interpersonal interactions. Across the sample, consistent definitions were reported regarding the characteristics defining each term, for example bullying was perceived as repeated in nature and purposeful, thus fulfilling the primary aim. However, there are implications that should be considered regarding the reported behaviours and purpose (specifically the perceived goals) of the different types of behaviour reported by the youngest and oldest members of the sample. For example, as reported in greater detail in Chapter 2, Section 2.2.1., the perceived purpose of behaviour and the behaviours involved are likely to differ between the youngest and oldest members of the sample (e.g. Bradshaw, Waasdorp and O'Brennon 2013; Nylund et al. 2007; Underwood, Beron and Rosen 2009). As such the findings of Phase 1 (reported in Chapter 5) which detail the characteristics that the participants perceived to differentiate the terms (Heterogeneity of behaviours across different negative interactions; Control of behaviour; Personal characteristics influence involvement) should be viewed as a broad framework through which 11-18 year olds differentiate types of behaviour. Had the study or if future research focused on a narrower age range, the specific behaviours and characteristics included in the definitions provided would likely differ between the age groups. For example, we would expect to see a greater proportion of older age groups reporting social inclusion goals and the use of more covert behaviours, whereas a younger age group would be more likely than an older age group to report material goals and the use of overt physical and verbal behaviours

(e.g. Alder and Alder 1998; Dijkstra et al. 2008; Eccles et al. 1998; LaFontana and Cillessen 2009; Larson and Richards 1991; Merton 2005).

Range of behaviours measured

In interpreting the findings of the current research the range of behaviours being measured needs to be acknowledged. The RPAQ (Raine et al. 2006) measures physical and verbal direct behaviour and therefore the behavioural clusters identified are based on the pattern of responses to involvement in these types of behaviours only. As discussed in Section 9.6.2. these types of behaviours only account for a proportion of behaviour being utilised in schools. It may be the case that if only relational and cyber forms of behaviour were being measured different patterns of behaviour may emerge (see Section 9.6.2. for details of the distinct features of cyber aggression).

Regarding the socio-cognitive characteristics measured, it should be acknowledged that there may be different associations with the use of cyber behaviours and empathy. For example, unlike the pattern of association found in the current research perpetration of cyber bullying (proactive behaviour) has been identified by past research to be negatively associated with *both* cognitive and affective empathy (Topcu and Erdur-Baker 2012). It should also be acknowledged that there has been very little research conducted investigating the role of empathy and cyber aggression and none investigating associations between reactive compared to proactive cyber behaviours and empathy. Therefore this is an area that necessitates further investigation to identify whether or not there are unique risk

factors associated with these forms of behaviour perpetrated online or via a mobile device compared to 'traditional' forms of behaviour.

A modification that could have been made to the methodology employed in the focus groups conducted and reported in Chapter 5, would have been to take a more bottom up approach. Rather than supplying the participants with a list of terms to define, an alternative approach would have been to allow the participants to identify terms they use to describe negative interpersonal interactions and then define and differentiate these themselves. A further beneficial use of focus group interviews, if time had permitted, would have been to further explore the themes which emerged from the two open ended questions posed to participants in the questionnaire (findings reported in Chapter 8). This may have provided more detailed responses than those acquired via the questionnaire.

In relation to the qualitative findings of Phase 2, firstly, the term 'picked on' was utilised when asking children to describe their understanding of why people become involved in negative interactions with others. This was done in order to avoid leading the participants into perceiving that this question related to bullying only. However, in analysing this data, themes emerged which were similar to past research which has investigated children and adolescents understanding of bullying (e.g. Frisen et al. 2007; 2008; Thornberg, Rosenqvist and Johansson, 2012). As such this may suggest that the participants perceived that this question was related specifically to bullying. In hindsight it would have been useful to include the term, 'picked on' in the list of terms presented to the focus groups of children and adolescents in Phase 1 of the data collection, in order to identify what this term

meant to participants. It is also acknowledged that the methodology employed to collect data regarding why children and adolescents believe others become involved in interactions whereby one child is 'picked on' by another has limitations. The findings presented in Chapter 8, were derived from responses to two open-ended questions asked as part of the questionnaire administered in Phase 2. The responses provided were somewhat short and restricted to a single sentence in most cases. Furthermore, the responses provided would have been restricted to the literary abilities of the participants. An additional method which could have been employed would have been to conduct focus group interviews. These could have involved a small number of participants per group in order to provide more in depth information around the themes identified in Chapter 8. This method would have allowed for more detailed discussion and for the participants to be prompted to provide more detail where necessary.

It should also be acknowledged as a limitation of the current methodology that no proper checks for inter-coder agreement of open-ended responses were conducted. The only check that was carried out was to screen the data within each theme to support that the quotes under each reflected the theme name under which the quotes had been grouped. This check was conducted by another researcher at Coventry University after the data had been analysed.

9.6.2 Direction for future research

It has been identified in previous sections of the current chapter that future research in to the behavioural patterns of the use of reactive and proactive aggression should to incorporate peer reports and broaden the age range of

participants. In addition to these, the findings of the current research also highlight a number of further avenues of exploration and direction for future research.

The current research, in addition to the limited number of previous studies, has identified behavioural groups based on the frequency of which they engage in reactive and proactive behaviours. Although useful to identify the behavioural motivation which may differentiate groups for more targeted interventions, the current research considers those who utilise any type of reactive or proactive behaviours as heterogeneous groups. That is, the groups have not been differentiated by the type of behaviour they utilise; physical, verbal or relational forms of the behaviour. Rather, participants were grouped together based on their indication of their use of *any* type of reactive or proactive behaviour. It is important that future research differentiate these groups further based on the type of aggression they display. For example focusing targeted intervention programmes on reducing the prevalence of physical forms of proactive aggression in a group whereby only the minority of individuals actually display these behaviours may lead to the majority disengaging with the intervention content if they feel that it is irrelevant to them, and thus are less likely to benefit when the intervention focuses on addressing the behaviours they do not actually use.

The current research focused on face-to-face or 'traditional' aggression. However, it should be made clear that this not the only type of aggression that children and adolescents are exposed to. It is vital to acknowledge in school interventions that technology, such as mobile phones and the internet can also utilised in aggressive relationships. Technology is increasingly a dominant part of

children and adolescent's lives and a means to communicate with peers. The current research literature suggests that between 16-30% of children and adolescents experience some form of aggression via a technological device such as their mobile phone or the internet (e.g. Cao and Lin 2015; Patchin and Hinduja, 2010). This could include behaviours such as the use of direct insulting language (with perpetrator identifiable or with their identity concealed), rumour spreading or the posting of pictures or videos which may embarrass or insult others, to name but a few examples (Kalwalski, Morgan and Limber 2012). Examples of behaviours that technology can facilitate, which are different to 'traditional' forms of aggression, are allowing anonymity of the perpetrator and the behaviour being witnessed by a much wider audience (e.g. sharing insulting or hurtful media). Importantly, technology provides a physical and proximal barrier between the perpetrator and victim as attacks do not need to be perpetrated in close proximity of the victim. This additional mode of contact can allow physical or face-to-face aggression, as has been investigated in the current research, to continue out of the school grounds and to invade children and adolescents in their own home. Not only does it allow for the continuation of such behaviour but also allows children and adolescents to be exposed to potential perpetrators or people to target around the world. Although the current research took the direction of focusing on physical face-to-face aggression, in Phase 1 of the research the children and adolescents who took part in the focus groups were also asked to define terms directly relating to cyber forms of behaviour. In addition to those detailed in Chapter 5, children and adolescents were also asked to define the terms cyber aggression, cyber violence and cyber bullying. The Cyber related terms were not perused and further investigated in the current thesis as doing so would have detracted from the focus of the aim of the thesis to investigate

traditional forms of reactive and proactive aggression. However, Copies of the transcripts relating to the responses to these terms are included in Appendix 6.

Again, the findings of current research should be viewed as potentially only part of the picture of the aggression being utilised between school aged children and adolescents. Although focus in the research literature is moving towards gaining a greater understanding of cyber aggression, in particular cyberbullying, there appears to be a lack of research evidence investigating the use of reactive cyber aggression. Of the few studies that have investigated an association between reactive aggression and cyber behaviours, these have tended to focus on the association between the use of 'traditional' reactive aggression and the use of general cyber aggression, rather than the use of reactive behaviours online (e.g. Ang, Huan and Florell 2014; Gradinger, Schmeier and Spiel 2009). This is a particularly important area to research as technology creates a barrier between the perpetrator and victim which in 'traditional' interactions may stop a reactive behaviour occurring. For example, technology creates a barrier between the victim and perpetrator. Not only does the perpetrator not see the emotional reaction of the victim (thus potentially reducing vicariously experiencing the negative emotion of a victim), but this barrier also removes/reduces the consideration of how peers would react to the behaviour (if the attack is anonymous). As such this physical barrier has the propensity to remove/reduce at least two of the important socio-cognitive inhibitors of the use of aggressive behaviour towards others (as discussed in Chapter 7) as such are important variables to investigate in relation to the use of reactive cyber aggression.

The findings of Phase 2 of the data collection (reported in Chapters 7 and 8) revealed findings which warrant further research. An emergent theme identified in the data reported in Chapter 8 was that aggression was used as part of a cycle of aggression. This would suggest the need to investigate children's conflict resolution abilities. Specifically, do they perceive responding to aggression with aggression as a more effective method than utilising non-aggressive conflict resolution strategies, such as informing a teacher, to ensure their safety? It is also important in such an investigation that the role of technology in this cycle of behaviour is explored. Retaliating to face-to-face aggression with aggression is to an extent dependent upon the perception of the victim of the initial encounter having the confidence and physical power to retaliate. However, technology removes this barrier of physical power differentiation (if there is one), and allows retaliation on an anonymous platform or one through which there is physical distance between perpetrator and victim at the time of an attack. The finding of such research will have important implications upon the way in which anti-aggression/bullying strategies should be developed as the findings of a cycle of aggression may suggest the need to teach children non-aggressive conflict resolution strategies and also highlight failures in the institutions in terms of not providing sufficient support for children.

The current research highlights that participants perceived that some children and adolescents lack control over their behaviour when angry. As this theme incidentally emerged from the data, rather than emerging from a line of questioning specifically asking participants to reflect upon perceived control of behaviour, it would be of value to investigate how this perception has developed, how they respond to individuals who they perceive to lack control and whether or not similar

perceptions are held across other participant samples. Future research should also investigate the narrative teachers and parents utilise to talk about the use of reactive aggression and also the way in which they react to the use of such behaviour in addition to how online sources available to children address such topics in order to identify how and why children and adolescents are developing their understanding of peoples control of their behaviour.

9.7 Conclusion

The concluding argument of the thesis is that both reactive and proactive aggression is prevalent and need to be addressed in intervention/prevention strategies in schools. The findings of the research presented in the current thesis suggest that the developmental pathways to the use of reactive and proactive aggression are not as distinct as previous research would suggest. The research identified that as the frequency of reactive forms of aggression increase, so did the frequency of proactive aggression. Furthermore, the current research identified that the frequency of the use of both reactive and proactive aggression are likely to be markers for perpetrating bullying such that moderate use of reactive and proactive aggression was the most significant indicator of perpetrating bullying. However, as the frequency of the use of aggression increased past this point, the risk of being the victim of bullying in addition to also perpetrating it increased. As such, the current data suggests that the use of reactive aggression may act as an indicator of the use of proactive aggression, and the frequency of the use of such behaviours may be indicative of involvement in bullying as either a perpetrator or a bully-victim.

The current research provided an important contribution to our understanding of the demographic associations with the use of reactive and proactive aggression. Unlike past research which has generally consistently found that males utilise aggression more frequently than females, the current research identified that females were significantly more likely to use aggression infrequently compared to males. There was a trend in the data suggesting that the females were as likely as males to report utilising aggression frequently. However, due to the small number of participants in the High Aggression group it cannot be confidently concluded that this result is significant and generalisable. In differentiating the age groups of participants in the current sample, the research found a peak in reported aggression before the second school transition (from secondary to high school). However, further longitudinal research is needed as the current research only collected cross sectional data.

The socio-cognitive associations found with the behavioural groups have important implications for educational strategies in schools in addition to providing direction for future research. Corroborating that which has been found before, self-reported affective empathy was found to decrease as the frequency of reported aggression increased, whereas no significant differences were found in cognitive empathy between the groups. This suggests that for the most frequent perpetrators of aggression, teaching how others would feel in an aggressive situation may have little effect on behaviour change and should be done so with caution. However, the positive association found between the use of and perceived acceptance of both reactive and proactive aggression, in addition to the findings of both qualitative sections identifies direction for both interventions in schools and future research.

In a developmental period where fitting into the peer group is particularly important for the development of an individual's self-identity, perceptions of the acceptability of behaviour are likely to be particularly influential in the consideration of how one's behaviour will affect the likelihood of inclusion in the peer group. Supporting past quantitative and qualitative research, the findings of the current research would support the inclusion of whole school strategies to promote that the wider peer group are not supportive of the use of proactive forms of aggression. In addition the identification of the social representations held across school groups, particularly those which may pertain to the perception that positive outcomes can be achieved from engagement in proactive aggression need to be addressed. Schools need to develop strategies to reduce the likelihood that such outcomes are achieved and that the punishment received for engaging in proactive aggression outweighs the perceived positive outcomes that could be achieved. Finally, a major contribution of the current thesis is the focus on understanding children and adolescents' use and perceptions of reactive forms of aggression. It is important that future research continue to investigate the use of reactive in addition to proactive forms of behaviour and furthermore, how these, 'traditional' behaviours are utilised in conjunction with technology.

10.0 References

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11.0 Appendices

Appendix 1	Ethical approval forms
Appendix 2	Parental information sheet and consent form- focus group interviews
Appendix 3	Participant information sheet and consent form- focus group interviews
Appendix 4	Participant debrief form- focus group interviews
Appendix 5	Parental debrief form- focus group interviews
Appendix 6	Transcripts of responses to terms relating to 'cyber' aggression from Phase 1 of the data collection
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Appendix 8	Parental information sheet and consent form- questionnaire
Appendix 9	Questionnaire
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Appendix 1- Ethical approval forms

Medium to High Risk Project

1. Project Information

Project Ref: **P5088**

Full name: Lisa Hopkins

Faculty: [HLS] Faculty of Health and Life Sciences

Department: [SY] Psychology

Module Code: PHDPSYCH

EFAAF Number:

Supervisor: Laura Taylor

Project title: **The Role of Empathy and Personal Attitudes in Adolescents' use of Interpersonal Reactive and Proactive Aggression**

Project dates: 03/06/2012 - 01/07/2013

Created: 08/05/2012 09:36

Project summary: The study aims to investigate the role of empathy and personal attitudes towards violence and aggression in a sample of 9-16 year olds. The sample will be differentiated into those who self-report the use of reactive and proactive aggression. Online and paper based questionnaires will be administered which require participants to provide both quantitative and qualitative answers.

Names of Co-investigators (CIs) and their organisational affiliation: Project supervisors- Dr Laura Taylor and Dr Erica Bowen

How many additional research staff will be employed on the project? 0

Names and their organisational affiliation (if known):

Who is funding the project? Coventry University

Has the funding been confirmed? Yes

Code of ethical practice and conduct most relevant to your project: British Psychological Society

[Project Details](#)[Comments \(9\)](#)[Downloads](#)[Approval Steps](#)

Project summary: Names of Co-investigators (CIs) and their organisational affiliation: Names and their organisational affiliation (if known): Code of ethical practice and conduct most relevant to your project:

2. Does this project need ethical approval?

1	Does the project involve collecting primary data from, or about, living human beings?	Yes
2	Does the project involve analysing primary or unpublished data from, or about, living human beings?	Yes
3	Does the project involve collecting or analysing primary or unpublished data about people who have recently died, other than data that are already in the public domain?	No
4	Does the project involve collecting or analysing primary or unpublished data about or from organisations or agencies of any kind, other than data that are already in the public domain?	No
5	Does the project involve research with non-human vertebrates in their natural settings or behavioural work involving invertebrate species not covered by the Animals Scientific Procedures Act (1986)?	No
6	Does the project place the participants or the researchers in a dangerous environment, risk of physical harm, psychological or emotional distress?	Yes
7	Does the nature of the project place the participant or researchers in a situation where they are at risk of investigation by the police or security services?	No
8	Does the project involve the researcher travelling outside the UK?	No

You maybe required to complete a **Health & Safety Assessment**. You can [download the form](#) here or visit the [Health & Safety Support Section](#) for more information. If you have answered **Yes** to **any** of these questions, please proceed to **section 3**.

If you answered **No** to **all** of these questions:

- You **do not** need to submit your project for peer review and ethical approval.
- You should sign the Declaration in **Section 17**, and keep a copy for your own records.
- Students must ask their Director of Studies to countersign the declaration, and they should send a copy for you file to the Registry Research Unit.

3. Does the project require Criminal Records Bureau checks?

1	Does the project involve direct contact by any member of the research team with children or young people under 18 years of age?	Yes
2	Does the project involve direct contact by any member of the research team with adults who have learning difficulties?	No
3	Does the project involve direct contact by any member of the research team with adults who are infirm or physically disabled?	No
4	Does the project involve direct contact by any member of the research team with adults who are resident in social care or medical establishments?	No
5	Does the project involve direct contact by any member of the research team with adults in the custody of the criminal justice system?	No
6	Has a Criminal Records Bureau (CRB) check been stipulated as a condition of access to any source of data required for the project?	Yes

Further information:Supervisor comments:

4. Is this project liable to scrutiny by external ethical review arrangements?

1	Has a favourable ethical opinion been given for this project by a social care research ethics committee, or by any other external research ethics committee?	No
2	Will this project be submitted for ethical approval to a social care committee or any other external research ethics committee?	No

If you have answered **No** to **both** of these questions, please proceed to **section 5**.

If you answered **Yes** to **either** of these questions:

- Sign the Declaration in **section 17** and send a copy to the Registry Research Unit.
- Students must get their Director of Studies to countersign the checklist before submitting.

1. What are the aims and objectives of the project?2. Briefly describe the principal methods, the sources of data or evidence to be used and the number and type of research participants who will be recruited to the project3. What research instrument(s), validated scales or methods will be used to collect data?4. If you are using an externally research instrument, validated scale or research method, please specify.5. If you are not using an externally validated scale or research method, please attach a copy of the research instrument you will use to collect data. For example, a measurement scale, questionnaire, interview schedule, observation protocol for ethnographic work or in the case of unstructured data collection a topic list.



6. Confidentiality, security and retention of research data

1	Are there any reasons why you cannot guarantee the full security and confidentiality of any personal or confidential data collected for the project?	No
2	Is there a significant possibility that any of your participants, or people associated with them, could be directly or indirectly identified in the outputs from this project?	No
3	Is there a significant possibility that confidential information could be traced back to a specific organisation or agency as a result of the way you write up the results of the project?	No
4	Will any members of the project team retain any personal or confidential data at the end of the project, other than in fully anonymised form?	No
5	Will you or any member of the team intend to make use of any confidential information, knowledge, trade secrets obtained for any other purpose than this research project?	No

Further information:Supervisor comments:

7. Informed consent

1	Will all participants be fully informed why the project is being conducted and what their participation will involve, and will this information be given before the project begins?	Yes
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7. Informed consent		
2	Will every participant be asked to give written consent to participating in the project, before it begins?	Yes
3	Will all participants be fully informed about what data will be collected, and what will be done with these data during and after the project?	Yes
4	Will explicit consent be sought for audio, video or photographic recording of participants?	Yes
5	Will every participant understand what rights they have not to take part, and/or to withdraw themselves and their data from the project if they do take part?	Yes
6	Will every participant understand that they do not need to give you reasons for deciding not to take part or to withdraw themselves and their data from the project and that there will be no repercussions as a result?	Yes
7	If the project involves deceiving, or covert observation of, participants, will you debrief them at the earliest possible opportunity?	Yes
8	Participant Information Leaflet attached.	
9	Informed Consent Form attached.	

Further information:Supervisor comments:

8. Risk of harm		
1	Is there any significant risk that your project may lead to physical harm to participants or researchers?	No
2	Is there any significant risk that your project may lead to psychological or emotional distress to participants?	Yes
3	Is there any significant risk that your project may lead harm to the reputation of participants, or their employers, or of any other persons or organisations?	No
4	Is there any significant risk that your project may result in harm to the reputation or participants, researchers, their employers, or other persons or organisations?	No

Further information:Supervisor comments:






9. Risk of disclosure of harm or potential harm		
1	Is there a significant risk that the project will lead participants to disclose evidence of previous criminal offences, or their intention to commit criminal offences?	No
2	Is there a significant risk that the project will lead participants to disclose evidence that children or vulnerable adults are being harmed, or are at risk of harm?	Yes
3	Is there a significant risk that the project will lead participants to disclose evidence of serious risk of other types of harm?	No

Further information:Supervisor comments:

10. Payment of participants		
1	Do you intend to offer participants cash payments or any other kind of inducements or compensation for taking part in your project?	No
2	Is there any significant possibility that such inducements will cause participants to consent to risks that they might not otherwise find acceptable?	No
3	Is there any significant possibility that the prospect of payment or other rewards will systematically skew the data provided by participants in any way?	No
4	Will you inform participants that accepting compensation or inducements does not negate their right to withdraw from the project?	No

11. Capacity to give valid consent		
1	Do you propose to recruit any participants who are under 18 years of age?	Yes
2	Do you propose to recruit any participants who have learning difficulties?	No
3	Do you propose to recruit any participants with communication difficulties, including difficulties arising from limited facility with the English language?	No

11. Capacity to give valid consent		
4	Do you propose to recruit any participants who are very elderly or infirm?	No
5	Do you propose to recruit any participants with mental health problems or other medical problems that may impair their cognitive abilities?	No
6	Do you propose to recruit any participants who may not be able to understand fully the nature of the research and the implications for them of participating in it?	No
Further information:Supervisor comments:		
12. Is participation genuinely voluntary?		
1	Are you proposing to recruit participants who are employees or students of Coventry University or of organisation(s) that are formal collaborators in the project?	No
2	Are you proposing to recruit participants who are employees recruited through other business, voluntary or public sector organisations?	No
3	Are you proposing to recruit participants who are pupils or students recruited through educational institutions?	Yes
4	Are you proposing to recruit participants who are clients recruited through voluntary or public services?	No
5	Are you proposing to recruit participants who are living in residential communities or institutions?	No
6	Are you proposing to recruit participants who are in-patients in a hospital or other medical establishment?	No
7	Are you proposing to recruit participants who are recruited by virtue of their employment in the police or armed services?	No
8	Are you proposing to recruit participants who are being detained or sanctioned in the criminal justice system?	No
9	Are you proposing to recruit participants who may not feel empowered to refuse to participate in the research?	No
Further information:Supervisor comments:		
13. Online and Internet Research		
1	Will any part of your project involve collecting data by means of electronic media, such as the Internet or e-mail?	Yes
2	Is there a significant possibility that the project will encourage children under 18 to access inappropriate websites, or correspond with people who pose risk of harm?	No
3	Is there a significant possibility that the project will cause participants to become distressed or harmed, in ways that may not be apparent to the researcher(s)	Yes
4	Will the project incur any other risks that arise specifically from the use of electronic media?	No
Further information:Supervisor comments:		
14. Other ethical risks		
1	Are there any other ethical issues or risks of harm raised by your project that have not been covered by previous questions?	No
15. Research with non-human vertebrates		
1	Will any part of your project involve the study of animals in their natural habitat?	No
2	Will your project involve the recording of behaviour of animals in a non-natural setting that is outside of the control of the researcher?	No
3	Will your field work involve any direct intervention other than recording the behaviour of the animals available for observation?	No
4	Is the species you plan to research endangered, locally rare or part of sensitive ecosystem protected by legislation?	No
5	Is there any significant possibility that the welfare of the target species or those sharing the local environment/habitat will be detrimentally affected?	No
6	Is there any significant possibility that the habitat of the animals will be damaged by the project, such that their health and survival will be endangered?	No
7	Will project work involve intervention work in a non-natural setting in relation to invertebrate species other than	No

15. Research with non-human vertebrates	
Octopus vulgaris?	
16. Blood Sampling / Human Tissue Analysis	
Does your project involve blood sampling or human tissue analysis?	No
17. Principal Investigator's Declaration	
Most appropriate course of action: I request an ethics review and confirm that I have answered all relevant questions in this form honestly.	
I confirm that I will carry out the project in the ways described in this form. I will immediately suspend research and request a new ethical approval if the project subsequently changes the information I have given in this form.	Yes
I confirm that I, and all members of my research team (if any), have read and agree to abide by the code of research ethics issued by the relevant national learned society.	Yes
I confirm that I, and all members of my research team (if any), have read and agree to abide by the University's Research Ethics, Governance and Integrity Framework.	Yes
Attachments	
Participant Information Leaflet attached.	
Informed Consent Form attached.	
Health & Safety Assessment attached.	
Debrief	
Q1 Extra Q	

Stem on third questionnaire is relating to how often when the items refer to the judgments about the behaviours. This needs amendment and I would suggest adapting your Likert headings for other questionnaires to standardise the responses more between the measures. This would improve the clarity of the questionnaire for respondents, which would subsequently improve the quality of your data.

Luke Sage - 29 May 2012 11:52 AM

Evaluation of the ethics of the proposal:

On the whole this research raises no major ethical concerns in its methodology but it is clearly focused on a sensitive area and will require close monitoring for any signs of distress from participants during data collection.

Anonymous - 29 May 2012 12:20 PM

Evaluation of the participant information sheet and consent form:

Other than the minor grammatical errors and concerns about the lack of signatures and dates on the hard copies of the consent form, everything else appears in order. I appreciate signatures cannot be obtained through the electronic version of the questionnaire, which may explain why information is lacking on the hard copy of the consent form, but the BPS code of conduct clearly states that informed consent should include 'adequate records of when, how and from whom consent was obtained.'

Anonymous - 29 May 2012 12:20 PM

Conditions or reasons that support your recommendation:

Amend consent forms and minor grammatical errors in PI.

Anonymous - 29 May 2012 12:20 PM

Conditions or reasons that support your recommendation:

See reviewers comments, after minor conditions have been met this can be approved by your supervisor

Joanna Hemming - 29 May 2012 12:37 PM

I have added an extra item to the previously approved questionnaire (Q1 Extra Q), this item has been highlighted in red

Lisa Hopkins - 29 Jan 2013 12:09 PM

Step	Status	Authoriser	Authorised on
Supervisor	Approved	Laura Taylor	Mon, 04 Feb 2013 08:19 PM
Referrer	Approved	Elaine Cartmill	Tue, 05 Mar 2013 10:01 AM
Reviewer	Not required	Reviewer	
Finalizer	Approved	Elaine Cartmill	Tue, 05 Mar 2013 10:02 AM

Medium to High Risk Project

1. Project Information

Project Ref: **P4521**

Full name: Lisa Hopkins

Faculty: [HLS] Faculty of Health and Life Sciences

Department: [SY] Psychology

Module Code: PHD

EFAAF Number:

Supervisor: Laura Taylor

Project title: **Children and Adolescents Understanding of Peer Aggression and Violence**

Project dates: 06/05/2012 - 30/06/2013

Created: 13/04/2012 11:38

Project summary: The study will be employing a focus group design to investigate children and adolescents understanding of terminology related to violence, aggression and bullying between peers.

Names of Co-investigators (CIs) and their organisational affiliation:

How many additional research staff will be employed on the project? 0

Names and their organisational affiliation (if known):

Who is funding the project? Coventry university

Has the funding been confirmed? Yes

Code of ethical practice and conduct most relevant to your project: British Psychological Society

[Project Details](#)[Comments](#) [\(5\)](#)[Downloads](#)[Approval Steps](#)

Project summary: Names of Co-investigators (CIs) and their organisational affiliation: Names and their organisational affiliation (if known): Code of ethical practice and conduct most relevant to your project:

2. Does this project need ethical approval?

1	Does the project involve collecting primary data from, or about, living human beings?	Yes
2	Does the project involve analysing primary or unpublished data from, or about, living human beings?	Yes
3	Does the project involve collecting or analysing primary or unpublished data about people who have recently	No

2. Does this project need ethical approval?

	died, other than data that are already in the public domain?	
4	Does the project involve collecting or analysing primary or unpublished data about or from organisations or agencies of any kind, other than data that are already in the public domain?	Yes
5	Does the project involve research with non-human vertebrates in their natural settings or behavioural work involving invertebrate species not covered by the Animals Scientific Procedures Act (1986)?	No
6	Does the project place the participants or the researchers in a dangerous environment, risk of physical harm, psychological or emotional distress?	Yes
7	Does the nature of the project place the participant or researchers in a situation where they are at risk of investigation by the police or security services?	No
8	Does the project involve the researcher travelling outside the UK?	No

You may be required to complete a **Health & Safety Assessment**. You can [download the form](#) here or visit the [Health & Safety Support Section](#) for more information. If you have answered **Yes** to **any** of these questions, please proceed to **section 3**.

If you answered **No** to **all** of these questions:

- You **do not** need to submit your project for peer review and ethical approval.
- You should sign the Declaration in **Section 17**, and keep a copy for your own records.
- Students must ask their Director of Studies to countersign the declaration, and they should send a copy for you file to the Registry Research Unit.

3. Does the project require Criminal Records Bureau checks?

1	Does the project involve direct contact by any member of the research team with children or young people under 18 years of age?	Yes
2	Does the project involve direct contact by any member of the research team with adults who have learning difficulties?	No
3	Does the project involve direct contact by any member of the research team with adults who are infirm or physically disabled?	No
4	Does the project involve direct contact by any member of the research team with adults who are resident in social care or medical establishments?	No
5	Does the project involve direct contact by any member of the research team with adults in the custody of the criminal justice system?	No

3. Does the project require Criminal Records Bureau checks?

6	Has a Criminal Records Bureau (CRB) check been stipulated as a condition of access to any source of data required for the project?	Yes
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Further information: Supervisor comments:

4. Is this project liable to scrutiny by external ethical review arrangements?

1	Has a favourable ethical opinion been given for this project by a social care research ethics committee, or by any other external research ethics committee?	No
2	Will this project be submitted for ethical approval to a social care committee or any other external research ethics committee?	No

If you have answered **No** to **both** of these questions, please proceed to **section 5**.

If you answered **Yes** to **either** of these questions:

- Sign the Declaration in **section 17** and send a copy to the Registry Research Unit.
- Students must get their Director of Studies to countersign the checklist before submitting.

1. What are the aims and objectives of the project? 2. Briefly describe the principal methods, the sources of data or evidence to be used and the number and type of research participants who will be recruited to the project 3. What research instrument(s), validated scales or methods will be used to collect data? 4. If you are using an externally research instrument, validated scale or research method, please specify. 5. If you are not using an externally validated scale or research method, please attach a copy of the research instrument you will use to collect data. For example, a measurement scale, questionnaire, interview schedule, observation protocol for ethnographic work or in the case of unstructured data collection a topic list.



6. Confidentiality, security and retention of research data

1	Are there any reasons why you cannot guarantee the full security and confidentiality of any personal or confidential data collected for the project?	No
2	Is there a significant possibility that any of your participants, or people associated with them, could be directly or indirectly identified in the outputs from this project?	No
3	Is there a significant possibility that confidential information could be traced back to a specific organisation or agency as a result of the way you write up the results of the project?	No
4	Will any members of the project team retain any personal or confidential data at the end of the project, other than in fully anonymised form?	No
5	Will you or any member of the team intend to make use of any confidential information, knowledge, trade secrets obtained for any other purpose than this research project?	No

Further information: Supervisor comments:

7. Informed consent

7. Informed consent

1	Will all participants be fully informed why the project is being conducted and what their participation will involve, and will this information be given before the project begins?	Yes
2	Will every participant be asked to give written consent to participating in the project, before it begins?	Yes
3	Will all participants be fully informed about what data will be collected, and what will be done with these data during and after the project?	Yes
4	Will explicit consent be sought for audio, video or photographic recording of participants?	Yes
5	Will every participant understand what rights they have not to take part, and/or to withdraw themselves and their data from the project if they do take part?	Yes
6	Will every participant understand that they do not need to give you reasons for deciding not to take part or to withdraw themselves and their data from the project and that there will be no repercussions as a result?	Yes
7	If the project involves deceiving, or covert observation of, participants, will you debrief them at the earliest possible opportunity?	Yes
8	Participant Information Leaflet attached.	
9	Informed Consent Form attached.	

Further information: Supervisor comments:

8. Risk of harm

1	Is there any significant risk that your project may lead to physical harm to participants or researchers?	No
2	Is there any significant risk that your project may lead to psychological or emotional distress to participants?	Yes
3	Is there any significant risk that your project may lead harm to the reputation of participants, or their employers, or of any other persons or organisations?	No
4	Is there any significant risk that your project may result in harm to the reputation or participants, researchers, their employers, or other persons or organisations?	No

Further information: Supervisor comments:

9. Risk of disclosure of harm or potential harm

9. Risk of disclosure of harm or potential harm

1	Is there a significant risk that the project will lead participants to disclose evidence of previous criminal offences, or their intention to commit criminal offences?	No
2	Is there a significant risk that the project will lead participants to disclose evidence that children or vulnerable adults are being harmed, or are at risk of harm?	Yes
3	Is there a significant risk that the project will lead participants to disclose evidence of serious risk of other types of harm?	No

Further information:Supervisor comments:

10. Payment of participants

1	Do you intend to offer participants cash payments or any other kind of inducements or compensation for taking part in your project?	No
2	Is there any significant possibility that such inducements will cause participants to consent to risks that they might not otherwise find acceptable?	No
3	Is there any significant possibility that the prospect of payment or other rewards will systematically skew the data provided by participants in any way?	No
4	Will you inform participants that accepting compensation or inducements does not negate their right to withdraw from the project?	No

11. Capacity to give valid consent

1	Do you propose to recruit any participants who are under 18 years of age?	Yes
2	Do you propose to recruit any participants who have learning difficulties?	No
3	Do you propose to recruit any participants with communication difficulties, including difficulties arising from limited facility with the English language?	No
4	Do you propose to recruit any participants who are very elderly or infirm?	No
5	Do you propose to recruit any participants with mental health problems or other medical problems that may impair their cognitive abilities?	No
6	Do you propose to recruit any participants who may not be able to understand fully the nature of the research and the implications for them of participating in it?	No

Further information:Supervisor comments:

12. Is participation genuinely voluntary?		
1	Are you proposing to recruit participants who are employees or students of Coventry University or of organisation(s) that are formal collaborators in the project?	No
2	Are you proposing to recruit participants who are employees recruited through other business, voluntary or public sector organisations?	No
3	Are you proposing to recruit participants who are pupils or students recruited through educational institutions?	No
4	Are you proposing to recruit participants who are clients recruited through voluntary or public services?	No
5	Are you proposing to recruit participants who are living in residential communities or institutions?	No
6	Are you proposing to recruit participants who are in-patients in a hospital or other medical establishment?	No
7	Are you proposing to recruit participants who are recruited by virtue of their employment in the police or armed services?	No
8	Are you proposing to recruit participants who are being detained or sanctioned in the criminal justice system?	No
9	Are you proposing to recruit participants who may not feel empowered to refuse to participate in the research?	No

Further information:Supervisor comments:

13. Online and Internet Research		
1	Will any part of your project involve collecting data by means of electronic media, such as the Internet or e-mail?	No
2	Is there a significant possibility that the project will encourage children under 18 to access inappropriate websites, or correspond with people who pose risk of harm?	No
3	Is there a significant possibility that the project will cause participants to become distressed or harmed, in ways that may not be apparent to the researcher(s)	No
4	Will the project incur any other risks that arise specifically from the use of electronic media?	No

14. Other ethical risks		
1	Are there any other ethical issues or risks of harm raised by your project that have not been covered by previous questions?	No

15. Research with non-human vertebrates		
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15. Research with non-human vertebrates		
1	Will any part of your project involve the study of animals in their natural habitat?	No
2	Will your project involve the recording of behaviour of animals in a non-natural setting that is outside of the control of the researcher?	No
3	Will your field work involve any direct intervention other than recording the behaviour of the animals available for observation?	No
4	Is the species you plan to research endangered, locally rare or part of sensitive ecosystem protected by legislation?	No
5	Is there any significant possibility that the welfare of the target species or those sharing the local environment/habitat will be detrimentally affected?	No
6	Is there any significant possibility that the habitat of the animals will be damaged by the project, such that their health and survival will be endangered?	No
7	Will project work involve intervention work in a non-natural setting in relation to invertebrate species other than <i>Octopus vulgaris</i> ?	No

16. Blood Sampling / Human Tissue Analysis	
Does your project involve blood sampling or human tissue analysis?	No

17. Principal Investigator's Declaration	
Most appropriate course of action: I request an ethics review and confirm that I have answered all relevant questions in this form honestly.	
I confirm that I will carry out the project in the ways described in this form. I will immediately suspend research and request a new ethical approval if the project subsequently changes the information I have given in this form.	Yes
I confirm that I, and all members of my research team (if any), have read and agree to abide by the code of research ethics issued by the relevant national learned society.	Yes
I confirm that I, and all members of my research team (if any), have read and agree to abide by the University's Research Ethics, Governance and Integrity Framework.	Yes

Attachments

Attachments	
Participant Information Leaflet attached.	
Informed Consent Form attached.	
Health & Safety Assessment attached.	
Appendices	

See attachments for Appendices

Lisa Hopkins - 13 Apr 2012 12:14 PM

See attachment for appendices

Lisa Hopkins - 13 Apr 2012 12:15 PM

Evaluation of the ethics of the proposal:

All ethical considerations raised in initial review have been addressed.

Anonymous - 27 Jun 2012 02:27 PM

Evaluation of the participant information sheet and consent form:

The participant information sheets clearly explain the project and are age appropriate

Anonymous - 27 Jun 2012 02:27 PM

Conditions or reasons that support your recommendation:

All conditions have been met and I recommend that this project be approved

Anonymous - 27 Jun 2012 02:27 PM

5 Comments

Step	Status	Authoriser	Authorised on
Supervisor	Approved	Laura Taylor	Tue, 22 May 2012 10:36 AM
Referrer	Referred to Reviewer	Elaine Cartmill	Tue, 22 May 2012 10:58 AM
Reviewer	Approved	Reviewer	Wed, 27 Jun 2012 02:27 PM
Finalizer	Approved	Elaine Cartmill	Thu, 28 Jun 2012 07:48 AM

4 Steps

Appendix 2: Parental information sheet and consent form- focus group interviews

Dear Parent/carer,

I am writing to ask for your permission for your child to take part in a study being conducted at [school name] to discuss their experiences of peer relationships in adolescence. My name is Lisa Hopkins and I am researching for a PhD at Coventry University investigating the area of interpersonal relationships between young people.

Attached is a detailed outline of a study that I am running at the school. I would be grateful if you could read through the information sheet and decide whether or not you wish for your child to take part.

Over the next few weeks, the young people at [school name] will be made aware of focus group interview sessions taking place at their school and will be given the opportunity to talk about their opinions and understanding of peer and dating relationships. To make it clear, the young people will only be asked to share their experiences of relationships with other young people of their own age and will not be asked about their experiences of relationships with family members.

This is not a compulsory activity and your child will only take part if they contact me and ask to be involved. It is hoped that these interviews will benefit the young people who take part by allowing them to discuss their understanding of relationships with others.

As your child is under the age of 18 years I require your permission for him/her to take part in the activity if they wish to do so. If you consent to your child taking part in the study you do not need to reply to this letter. However, if you feel that this is not something that you would like your child to have the opportunity to take part in then please complete and return the form below. If I do not hear back from you within 10 days [date], I will assume that you are happy for your child to take part if they wish to do so. If you have any questions about the study itself, please email me at Hopkin40@uni.coventry.ac.uk,

alternatively please contact my project supervisor, Dr Erica Bowen at E.bowen@coventry.ac.uk. Any general questions about the overall topic of peer relationships at the school should be directed to the school itself.

Thank you for taking the time to read this letter,

Yours faithfully,

Lisa Hopkins.

Please tick the boxes and complete the rest of the slip as indicated.

☐

I am the parent / guardian of the child named below.

☐

I do not give my consent for my child to take part in the peer relations study.

Signed:

Date:

Child's Name:

Appendix 3: Participant information sheet and consent form- focus group interviews

Adolescent interpersonal relationships study: participant information sheet.

What is this study about?

This study is looking at the understandings and opinions of young people your age of peer relationships with other people your age. By listening to your opinions the study aims to highlight your understanding and opinions of relationships in order to understand them better. In particular I'm looking to identify different behaviours young people find acceptable and unacceptable within peer and dating relationships.

Why have I been chosen to take part?

We are hoping that about 40-60 young people between the ages of 12 and 16 will take part. We contacted a number of schools in the area and told them about it. Your school has kindly said that we can come in and talk to you and the other young people here, as your head teacher is interested in the study that we are doing.

Do I have to take part?

No, if at any point before or during the interview you decide you do not wish to take part any more you can stop. You are free to leave at any point and will not be asked to give a reason why.

What are the disadvantages of taking part?

By taking part you may be missing some class time, however, your teacher has agreed a suitable time to take part so that you are not missing important work that you cannot catch up on.

What if something goes wrong?

There isn't really anything that can *go wrong* during this study. However, if you find any of the questions upsetting or if you're not happy with the way things are going you can stop at any point or ask to move on to a different question. You will not be asked why you don't want to carry on; it is your decision.

What are the advantages of taking part?

By taking part in this study you will be helping our understanding of the relationships that you have with other people your age. By understanding both your good and bad relationships better, we will be in a better position in the future to reduce the numbers of people your age becoming involved in bad relationships.

Will anyone know that I've taken part in this study?

When the study is written up you will be identified only by your gender or age, so no one else other than the people taking part in this focus group will know of your individual contribution. All the information you provide will be kept in a locked cabinet so no one will be able to get to it apart from me. In order for other people not to know the other members of the group have taken part and what they have said, you must make sure that you do not share any of the information provided by other members of the group with anyone else once the interview has finished.

Do I have to take part?

You do not have to take part if you don't want to. If you do decide to take part, you can stop whenever you want to or take a break if you want to. Unfortunately, you will not be able to withdraw your contribution to the discussion after the focus group has ended as it will be difficult to identify you from the audio recording.

What will happen to me if I do take part?

I will be asking you a number of questions about what you believe good and negative relationships involve. You will be asked a number of questions which the group will then be asked to discuss. You will not be judged negatively on anything that you say and there are no right or wrong answers.

What I will be doing is listening to your responses and also recording it on this audio recorder. What I cannot do is offer advice or my opinion about the events and experiences you discuss today.

What will happen to the results of the research study?

The results will be included within my PhD study write up as well as presented to other people who are also researching about young people's relationships.

Who has reviewed the study?

The Coventry University Ethics Committee have reviewed and approved this study.

Contact for further information

Lisa Hopkins or Dr Erica Bowen (study supervisor)

Psychology Department

Coventry University

Priory Street

Coventry

CV1 5FB

Email: hopkin40@uni.coventry.ac.uk or e.bowen@coventry.ac.uk

If you understand the information above and are happy for the information you provide to contribute towards the study please sign your name and tick the box below. If you are not happy to continue, please hand the form back and you are free to leave.

Iam happy to take part and for the
information I provide to be used ☐

Appendix 4: Participant debrief form- focus group interviews

Thank you for taking part in this discussion.

The information you have provided about your opinions and understanding of peer and relationships is very valuable and will contribute towards a project which will help to better understand both positive and negative relationships among young people. With a more accurate understanding of these relationships we may in future be in a better position to help reduce the numbers of people your age becoming involved in negative relationships.

If, after the discussion today you wish to talk further about your experiences, the organisations below provide free-phone numbers, email services and live web chats for you to talk to trained mentors/counsellors. If you have any further questions about the project I am conducting please contact me on the email address above.

Childline- 0800 1111 (www.childline.org.uk)

Samaritans- 08457 909090 (www.samaritans.org)

Get connected- 0808 808 4994 (getconnected.org.uk)

Bullying.co.uk also provides advice on bullying and an emailing service for you to ask for help and advice.

You have also been given a letter to take home to your parent/carer, please ensure that they receive this as it contains the information you have been provided with here.

Thank you again, the information you have provided is very valuable.

Appendix 5: Parental debrief form- focus group interviews

Further to the previous letter you received asking for your consent for your child taking part in a study about their experiences and opinions of peer relationships, I am writing to you to thank you for allowing your child to take part (see attached sheet for the original consent letter sent to you).

Today your child took part in a focus group interview discussing their understanding and opinions of relationships with other people of their own age. The information your child has provided about their experiences is very valuable and will contribute towards a project which will hopefully aims to better understand the behaviours involved and opinions of young people and their involvement in peer relationships.

The personal information your child provided will not be shared with anyone else and their name will not be mentioned within the write up of this study.

Thank you again, the information your child has provided about their experiences is very valuable,

Yours sincerely,

Lisa Hopkins.

Appendix 6- Transcripts of responses to 'cyber' terms from Phase 1 of the data collection

Group 1- Primary school females

Cyber bullying

I think it means on the internet through different chat like Habbo or something

It's when you're on a chat room or site and stalking them and saying horrible things to them on the internet

Where you're on a chat room and people are sending nasty messages every so often and they won't stop doing it

It's when you're on the internet and people keep sending you mean messages and it happens all the time.

It's when you're on the internet and you go onto a chat and you speak to someone you don't know and they start being nasty to you

It's like normal bullying except you're not face to face and you're using words

Your sending mean horrible messages that u know is going to upset someone

Cyber bullying doesn't have to be on a chat room, they can send you nasty emails and all sorts

They can swear and curse at you and threaten you

They can send you emails if they get your email address and tell you stuff that isn't very nice

You can send junk mail and viruses to your computer which can damage it and hack you and shadow your key board

It can happen to many people any age so if your online so if your online its best to go on a chat room that's being watched by someone

Its better to have a moderator chat room that's got a moderator

Cyber violence

Is cyber violence where you actually meet up with someone because of the internet and then start bullying them and cyber bullying is where you just say stuff that mean on the internet and send mean messages

Where you send junk mail and messages through the computer

Cyber violence is where you see each other afterwards and cyber bullying is where you just chat

I think it may be like web cam because like it could be like face to face talk and they may send you like videos and stuff of violence
Its just mean

Cyber aggression

Is it where your really angry and your sending angry messages to different people
It's something similar to cyber violence but its not physical its just angry with someone face to face but on the internet

I think it's like webcam when you are pretending, well not pretending but getting angry but you can actually see them

It's really really nasty and no one likes it to happen to them

It might be face to face again but could be swearing and getting quite violence and aggressive

Group 2- Primary school females

Cyber bullying

Its where somebody bullies you online calling you names and everything

Its where they send tou horrible messages and keep doing it

When your on the internet and your on a program or something like msn and somebody keeps sending you nasty messages like every day

When your on a chatting website and like a grown man asks you for details and tries to bully you over the internet

When someone keeps being mean to you over the internet

When people harass you and don't stop until you give them your details

When people from school or people you know who don't like you much be mean to you and knows what makes you upset

Is there any difference between cyber bullying and cyber violence?

Its violence when you send them bad things like 'i want to hurt you' 'next time i see you im going to hit you'

They send messages which are threats

Where a grown man will pretend to be one of your friends or someone your own age and they make plans to meet up with you and hurt you physically

When they send you pictures and photos of what they're going to do to you so that its going to seem more realistic

Is there any difference between cyber violence and cyber aggression?

I think cyber aggression is like when they get angry and the person that's sending the messages is getting angry because you're not really bothered what they're sending you

I'm not quite sure but is it where if someone tells you what to do over the internet, a grown man and you don't do it, that makes the person angry

Where you say something and that gets them angry and then they bully you

Group 3- Primary school males

Cyber bullying

Getting bullied through the internet, through facebook

Bullied online

Like when you're playing an online game and someone is saying bad things to you

Going online and you're talking to someone and they start calling you names and bullying you and threatening that they're going to come over to your house and hurt you

When you're not expecting it someone will call you a name and think that you're not going to play with them again and they keep doing it and threatening that if you tell someone they'll come round your house or something

Cyber violence

Cyberbullying is where you say names and cyber violence is where like they threaten to come round and hurt you

I think it's the same thing

Where they are calling you names and then saying you're an idiot or something and then the next time cyber violence is like where they say don't tell anyone or ill come round your house and hit you or something

I think they're both the same

Cyber aggression

It's a bit different, you threaten them but your not actually going to do anything your just threatening to do it

You get angry for no reason because they've had a hard time or something with their mum or their dad and they just want to get their feelings out so they'll just pick on any random person

They get their aggression out

You're threatening them but its only like a joke just like to scare them

Group 4- Primary school females

Cyber bullying-

When you've got a friend and they're being nasty to you and texting nasty words to you and saying i know where you live so i'm coming to beat you up

Where you do it over the internet so like on Facebook but like they say it on Facebook and MSN and Habbo but they don't say it to your face so they like they send texts' and they put 0800 in front of the number and they call you and they say stuff like "i'm gonna get you" and stuff like that but nothing happens they're just threatening you

I think its two things on your phone and on the computer and erm, well this did happen to me and im not going to mention who because i know who it was, started having a go at me because i don't know them and started texting me and prank calling me and then my dad had a word with them and then they kept on starting again but they started swearing in the texts' and all that and then i showed my mum and dad and then they text "i know where you live, i'm going to break into your house" and all that and then i said no chance because my dad will watch over the house and she said, she don't come to this school and she said her name number one you zero its a warzone and the 'b' word and i was like "oh" and then its my cousins mate and i told my cousin to get her phone out and she has a Blackberry and i found out that she told everyone on facebook and BBM, Blackberry Messenger that she gave my number out and thats why people had been prank calling me I used to go on this game called Movie Star Planet where you could chat as well and meet friends and there was this girl and because I had a mate on there who is at this school as well because i used to hang around with her she used to call me a lesbians and stuff like that and i didn't like it and left it and just started going somewhere else [on the game] because you get your own little house so me and my friend went to my house and then she followed because you can click on the person and click on their profile which you can go to their house and she kept following me

everywhere and i didn't like it so i just went off it and my friend said "well why didn't you go on it last night" I went "because this girl was calling me that word"

I also have Movie Star Planet and I was talking to my frie- I don't really know her i just know her on their she said she's from Africa so she's a different colour to me and there was this other girl and she was my best friend on there and she used to follow us everywhere and she was being racist to her and she was following her and being racist to her and calling her nasty names so we both went off and a couple of months later we went back on and she had gone but then it started again so we reported her and she's like, they do an investigation and see what they've been saying on the previous ones so she's been banned. The other on is sometimes when people email you like they email you a weird email and you don't know them and they could say that you've won a competition come to this address to pick up your prize and you go to this address and its just like a weird place and theirs loads of big kids there ready to bully you

I was playing on my mums phone and all of a sudden my mum had a text, i showed it my mum and it mentioned my name saying im coming to get you then my mum said what have you done and i said nothing and then she said, she text back and said "if you keep texting me and my daughter I'm going to report you to the police" I don't know whether this is to do with is but on Movie Star Planet there's some really weird people and i think you're allowed to say this because it says this on the sites, they're being sexually abused and they say like really dirty words and all that and one person called [screen name], my friend was round mine and he said he said, "suck my coxi" and all that and i reported him and it came up that i was reported as well and i was like "i didn't do anything" and i came back on and he started shouting at me saying, "why did you report me" and he started going again and I was like "go away" so i just went out of my room and he just kept following me and i was kind of scared because erm, im not sure whether you're allowed to say this but i thought he was a paedophile

I've got facebook and I don't know whether its anything to do with it but my friend, well she used to be my friend she said that, she was saying really mean stuff at my like calling my big lip and everything because I've got a birth mark and she was like "I'm gonna come round your house now" and i just told my mum and dad and she was like stalking me and she was shouting at me from the gate and she was like "come here 'cos I'm gonna beat you up" and i was like "just go away" because i left

her, i just like left it because when it came to night and then she left and then in the morning it was a schools day and my mum rang the police up and said that she's stalking my daughter and like shes being really nasty to her and she got reported to the police and i don't know whats happeded to her now

Cyber aggression

I think thats when your shouting really bad and loosing your temper and that and then the other one I think thats when they say, "I'm so gonna get you" like being offensive but not actual meaning it and when they do it on the computer, capital locks and all that "I'm gonna get you and all that" and then like the next day their your best friends and all that

Its like where bullying is, cyber bullying is where you do it over the internet and your phone, is it where they come and say it to your face

Cyber violence

Aggression is where you use your mouth and you talk cyber violence is where you try and slash with knives and stuff like that

I think cyber violence is, you're on Habbo one of the internet programmes and another character comes up to you and says I want to fight you and they start fighting with you.

Group 5- secondary school males

Cyber bullying-

On the computer

On our phone

Do you think that there is any difference between cyber bullying and cyber violence? What do you think cyber violence is?

Threatening someone

On one you're just saying words and on the other your like threatening them

Do you think there is any difference between cyber aggression and cyber violence? What do you think cyber aggression is?

When you get really mad at someone but its on your computer or on your phone

Group 6- secondary school females-

Cyber bullying

Over the internet but its more painful

Bullying over facebook

Could be on phones as well

Its not to your face so it hurts more seeing as they're not saying it to your face

You might not necessarily know the person who is doing it so it might make you feel more alone

Its indirect

Cyber aggression

Aggression over facebook

Cyber violence

Cyber violence is where you get an image of them and photoshopping it or something

People making groups against a particular person or something on facebook

Group 7- Secondary school females-

Cyber bullying

When your on the computer or your phone

You're not next to them you're far away

On a ps3

Say you've got facebook, when you take the micky out of pictures and stuff

You could make fake accounts and like ring your house phone or something, make prank calls

Where they're too cowardly to do it to your face and they do it online and you don't know who it is so you can't stop it

That's happened to me before

When you're online and people just say stuff to you

Cyber aggression-

Is it where you proper hurt their feelings online and spread stuff around and just comment on their pictures all the time

You can threaten people online

You can say when you come to school "I'm going to batter you"

Do you think cyber aggression is the same thing as cyber violence or are they different?

Same thing

I think cyber violence is where you say you're going to batter them but the other one is just calling them names

When they say, "I'm going to batter you" and they actually do it

Group 8- Secondary school males

Cyber bullying

Over technology

Online

Mobile phones

Computers

Consoles

Facebook and stuff

When you're playing online with your friends on the games

Cyber aggression

Over phones or internet

It doesn't have to be cyber bullying but its like some type of cyber bullying because they don't know they're being aggressive

Cyber violence

Same thing

Group 9- High school females

Cyber bullying

Any form of bullying over the internet or online

Using technology

Different means of communication so it doesn't have to be face to face

It can be anonymous

There is anonymity involved in it

Would you say that there is a difference between cyber bullying and cyber aggression?

Yes, cyber aggression can be a one off act because they have annoyed you or something like that but cyber bullying would be repeated all the time

Cyber bullying is targeted at one person

Cyber aggression is more of a general thing you possibly be aggressive to a lot of people as opposed to just focusing on one person

Cyber violence, would you say that's the same as cyber bullying or cyber aggression?

It's more the same as cyber aggression but just a harsher form

Group 10- high school females

Cyber bullying

Over text or internet or anything, ipods where you use harsh words or you're singling someone out on facebook or on the internet and putting harsh things about them out there for everyone to see

Like putting pictures up about them or spreading things or putting things up that you've not had their permission to do that could humiliate them and stuff

Cyber aggression

That could be getting angry at someone over the internet like on facebook or something but its not bullying because you just

Aggression could be defending yourself because of what someone said whereas bullying is like choosing someone to feel the way you might have when you were being aggressive

Cyber violence

Could it be like you say you're going to do something to someone

Group 11- High school males

Cyber bullying-

Where you do it online and you type horrible things and you can do it where you can see who it is but you can also do it anonymously as well so you can't find out who it is

You can do it like text as well and by a variety of different things using anything to not actually come from them in a way

Cyber aggression

Like threatening but using it over a non confrontational way

Would that be different from cyber bullying?

I'd still class that as cyber bullying because at the end of the day you're still hurting someone

I think it would be the same as normal aggression and violence in the same way as bullying in the normal way to cyber bullying

Cyber violence-

I've never heard of that

I don't know really

**Appendix 7: A copy of 'A Qualitative Study Investigating Adolescents'
understanding of Aggression, Bullying and Violence'**

Appendix 8: Parental information sheet and consent form- questionnaire

Dear Parent/carer,

I am writing to ask for your permission for your child to take part in a study being conducted at [school name] to discuss their understanding of why young people of their age act aggressively and violently towards others. My name is Lisa Hopkins and I am researching for a PhD at Coventry University investigating the area of interpersonal relationships between young people.

Attached is a detailed outline of a study that I am running at the school. I would be grateful if you could read through the information sheet and decide whether or not you wish for your child to take part.

Over the next few days, the young people at [school name] will be invited to fill in a questionnaire investigating their experience of bullying and attitudes towards aggressive behaviour. To make it clear, the young people will only be asked to share their experiences of interactions with other young people of their own age group and will not be asked about their experiences of relationships with family members or older acquaintances.

This is not a compulsory activity and your child will only take part if they wish to do so. It is hoped that these interviews will benefit the young people who take part by allowing them to discuss their understanding of relationships with others at school.

As your child is under the age of 18 years I require your permission for him/her to take part in the activity if they wish to do so. If you consent to your child taking part in the study you do not need to reply to this letter. However, if you feel that this is not something that you would like your child to have the opportunity to take part in then please complete and return the form below. If I do not hear back from you within 10 days [date], I will assume that you are happy for your child to take part. If you have any questions about the study itself, please email me at

Hopkin40@uni.coventry.ac.uk , alternatively please contact my project supervisors, Dr Laura Taylor laura.taylor@coventry.ac.uk or Dr Erica Bowen at E.bowen@coventry.ac.uk. Any general questions about the overall topic of peer relationships at the school should be directed to the school itself.

Thank you for taking the time to read this letter,

Yours faithfully,

Lisa Hopkins.

Study Information

What is the study about?

The aim of the study is to investigate children/adolescents understanding and use of aggressive behaviours towards peers. Information collected via questionnaires will contribute towards a better understanding of how young people perceive bullying and aggressive behaviours that they see or are engaged in with peers. The study is being funded by Coventry University as part of a PhD project.

Why have I been approached?

I am looking for young people aged between 9 and 16 years-old to complete a questionnaire. I am writing to all parents/carers at the school whose children are within this age group to ask if they are willing for their child to take part as part of a class activity.

Do we have to take part?

No, participation is entirely voluntary and there are no consequences for either you or your child if you decide not to take part.

What will happen if he/she takes part?

The questionnaires will be completed as part of a class activity arranged by the teacher. Before the questionnaires are handed out the teacher will explain the nature of the questionnaire and the young people will have the opportunity to opt out if they wish to do so. The questionnaire will take no longer than 45 minutes to complete.

What are the possible disadvantages and risks of taking part?

Negative aspects of peer relations such as bullying will be addressed within the questionnaire. For some young people this may cause some concern, however the nature of the study will be explained before they begin to complete the questionnaire. Further to this, if at any point the young people decide they do not want to continue, they will be free to stop without having to provide an explanation.

What are the possible benefits of taking part?

The benefits of taking part in the study will be that the young people will be able to feel empowered that they are contributing to a research project aimed at understanding bullying and peer aggression more accurately. With this knowledge we will be in a better position to ultimately help to reduce bullying and aggressive behaviours.

What if something goes wrong?

The young people will be informed of the subject matter before the interview commences, however, if at any point throughout questionnaire the participants become distressed by the content they can stop without providing a reason why.

If you have any questions about the research itself you can contact me by emailing me at hopkin40@uni.coventry.ac.uk. Any concerns regarding any relationships your child has at school should be addressed to the school. Subsequent to the interview taking place you will receive a written debrief with my contact details again.

Will our taking part in the study be kept confidential?

All information will be kept confidential. At no point will the young people be asked to record their names and so any data which is used with the write up of the study will be anonymous. In order to respect the confidentiality of the information your child provides if they wish to take part, the information they share with me will not be able to be shared with yourself, unless they disclose concern about the a significant risk of being harmed. All information provided will be stored in a locked cabinet. All consent forms with both the names and participant numbers on them will be stored in a separate locked cabinet.

What will happen to the results of the research study?

The results will be included within my PhD write up as well as presented at academic conferences and may also be included within peer reviewed academic journals.

Who has reviewed the study?

The Coventry University Ethics Committee have reviewed and approved this study.

Contact for further information

Lisa Hopkins, Dr Laura Taylor (study supervisor) or Dr Erica Bowen (study supervisor)

Psychology Department

Coventry University

Priory Street

Coventry

CV1 5FB

Email: hopkin40@uni.coventry.ac.uk, laura.taylor@coventry.ac.uk or

e.bowen@coventry.ac.uk

Please tick the boxes and complete the rest of the slip as indicated.

☐

I am the parent / guardian of the child named below.

☐

I do not give my consent for my child to take part in the peer relations study.

Signed:

Date:

Child's Name:

Appendix 9: Questionnaire

Participant number:

Sex Male / female (please circle)

Please read through the following statements carefully. Indicate how much you agree or disagree with each by placing a tick in the appropriate box.

Items	Strongly disagree	Disagree	Agree	Strongly agree
1. My friend's emotions don't affect me much.				
2. After being with a friend who is sad about something, I usually feel sad.				
3. I can understand my friend's happiness when she/he does well at something.				
4. I get frightened when I watch characters in a good scary movie.				
5. I get caught up in other people's feelings easily.				
6. I find it hard to know when my friends are frightened.				
7. I don't become sad when I see other people crying.				
8. Other people's feelings don't bother me at all.				
9. When someone is feeling 'down' I can usually understand how they feel.				
10. I can usually work out when my friends are scared.				
11. I often become sad when watching sad things on TV or in films.				
12. I can often understand how people are feeling even before they tell me.				
13. Seeing a person who has been angered has no effect on my feelings.				
14. I can usually work out when people are cheerful.				
15. I tend to feel scared when I am with friends who are afraid.				
16. I can usually realise quickly when a friend is angry.				
17. I often get swept up in my friend's feelings.				
18. My friend's unhappiness doesn't make me feel anything.				
19. I am not usually aware of my friend's feelings.				
20. I have trouble figuring out when my friends are happy.				

Rate each of the items below by ticking the box that applies **how often you have done these in the past month.** Do not spend a lot of time thinking about the items—just give your first response. Make sure you answer all the items (see below).

How often have you	Never	Once	2-3 times	Once a week	More than once a week
1. Yelled at others when they have annoyed you					
2. Had fights with others to show who was on top					
3. Reacted angrily when provoked by others					
4. Taken things from other students					
5. Gotten angry when frustrated					
6. Vandalized something for fun					
7. Had temper tantrums					
8. Damaged things because you felt mad					
9. Had a gang fight to be cool					
10. Hurt others to win a game					
11. Become angry or mad when you don't get your way					
12. Used physical force to get others to do what you want					
13. Gotten angry or mad when you lost a game					
14. Gotten angry when others threatened you					
15. Used force to obtain money or things from others					
16. Felt better after hitting or yelling at someone					
17. Threatened someone					
18. Made obscene phone calls for fun					
19. Hit others to defend yourself					
20. Gotten others to gang up on someone else					
21. Carried a weapon to use in a fight					
22. Gotten angry or mad or hit others when teased					
23. Yelled at others so they would do things for you					

Please rate each of the items below by ticking the box that applies how acceptable you think it **is for other people to act in these ways**. Do not spend a lot of time thinking about the items—just give your first response. Make sure you answer all the items (see below).

	Unacceptable	Sometimes acceptable	Acceptable
1. To yell at others when they have annoyed them			
2. To have fights with others to show who was on top			
3. To react angrily when provoked by others			
4. To take things from other students			
5. To get angry when frustrated			
6. To vandalize something for fun			
7. To have temper tantrums			
8. To damage things because they feel mad			
9. To have a gang fight to be cool			
10. To hurt others to win a game			
11. To become angry or mad when they don't get their way			
12. Use physical force to get others to do what they want			
13. To get angry or mad when they lose a game			
14. To get angry when others threatened them			
15. To use force to get money or things from others			
16. To feel better after hitting or yelling at someone			
17. To threaten someone			
18. To make nasty phone calls for fun			
19. To hit others to defend yourself			
20. To get others to gang up on someone else			
21. To carry a weapon to use in a fight			
22. To get angry or mad or hit others when teased			
23. To yell at others so they will do things for them			

Below is a list of things that some children do to other children. How often during the **past month** has another pupil **done these things to you?** Please answer by putting a tick in one of the three columns for each of the 9 statements

Scale number 4	Never	Once	2-3 times	Once a week	More than once a week
Called me names or swore at me					
Tried to make my friends not like me anymore					
Tried to break/broke something of mine on purpose					
Hurt me physically in some way					
Refused to talk to me					
Made fun of me for some reason					
Took something from me on purpose					
Made other people not talk to me					
Spread rumours about me					

Below is a list of things that some children do to other children. How often during the **past month** have **you done these things to another pupil because you wanted to?** Please answer by putting a tick in one of the three columns for each of the 9 statements

Scale number 5	Never	Once	2-3 times	Once a week	More than once a week
Called them names or swore at them					
Tried to make their friends not like them anymore					
Tried to break/broke something of theirs on purpose					
Hurt them physically in some way					
Refused to talk to them					
Made fun of them for some reason					
Took something from them on purpose					
Made other people not talk to them					
Spread rumours about them					

Please write your answers to the following three questions in the space provided

Why do some people get picked on by other people?

Why do people pick on others?

Appendix 10: Participant information sheet and consent from- questionnaire

What is this study about?

This study is looking at what people your age think about unkind actions and why people might act this way.

Why have I been chosen to take part?

We are hoping that about 1000 children/adolescents between the ages of 9 and 16 will take part. Your school has kindly said that you will fill out a survey for me.

Do I have to take part?

No and you will not be asked why you don't want to take part.

What are the disadvantages of taking part?

This will be taking up some class time, but your teacher has said this is fine.

What if something goes wrong?

There isn't really anything that can *go wrong* during this study. But, if you find anything upsetting you can stop whenever you want.

What are the advantages of taking part?

By answering the questions you will be helping me to understand why people sometimes act in an unkind way towards other people. I can then look at ways to make the school a nicer place to be in by looking at how to change unkind behaviours.

Will anyone know that I've taken part in this study?

Only the people in this room and your teacher, but they will not know what you have said.

Do I have to take part?

No, not if you don't want to. However, your teacher will ask you to do other work if you do not take part in the activity.

What will happen to me if I do take part?

You will be asked to answer a number of questions by circling answers and writing short paragraphs about your opinions and actions. You will not be judged negatively on anything that you say and there are no right or wrong answers.

What will happen to the results of the research study?

The answers you and the other young people give will be included within the write up of my study as well as presented to other people who are also researching about young people's actions.

Who has reviewed the study?

The Coventry University Ethics Committee have reviewed and approved this study.

Contact for further information

Lisa Hopkins, Dr Laura Taylor or Dr Erica Bowen (study supervisors)

Psychology Department

Coventry University

Priory Street

Coventry

CV1 5FB

Email: hopkin40@uni.coventry.ac.uk, laura.taylor@coventry.ac.uk or

e.bowen@coventry.ac.uk

If you understand what has been explained above and are happy for your answers to be included within the study please sign your name and tick the box below. If you are not happy to take part, please hand the form back.

Iam happy to take part ☐

Appendix 11: Participant debrief- questionnaire

Thank you for answering the questions.

The answers you provided are very valuable and will be included in my project.

If you want to talk further about unkind friendships, the organisations below provide free phone numbers, email services and live web chats for you to talk to someone about these. If you have any questions about the project please contact me on this email address Hopkin40@uni.coventry.ac.uk.

Childline- 0800 1111 (www.childline.org.uk)

Samaritans- 08457 909090 (www.samaritans.org)

Get connected- 0808 808 4994 (getconnected.org.uk)

Bullying.co.uk also provides advice on bullying and an emailing service for you to ask for help and advice.

You have also been given a letter to take home to your parents/carers, please make sure that they get it.

Thank you again,
Lisa Hopkins.

Appendix 12: Parental debrief- questionnaire

Further to the previous letter you received asking for your consent for your child taking part in a study about their experiences and opinions of peer relationships, I am writing to you to thank you for allowing your child to take part. Today your child completed the questionnaire. The information they provided about their experiences is very valuable and will contribute towards a project that aims to better understand why children/adolescents act aggressively towards their peers. All the information provided by your child will remain anonymous, as they did not provide their name.

Thank you again, the information your child has provided about their experiences is very valuable,
Yours sincerely,

Lisa Hopkins.

Appendix 13: Empathy measures

Examples of items within frequently employed questionnaires aimed to measure empathy

	What the scale aims to measure and the definition of empathy	Items measuring cognitive empathy	Items measuring affective empathy	Limitations for use within the current research
IRI (Davis, 1994)	Affective and cognitive empathy utilising four subscales- Perspective taking, Empathic concern, Personal distress, Fantasy.	Items on the perspective taking and fantasy scales equate to the measurement of cognitive empathy. For example, 'Before criticising someone, I try to imagine how I would feel in their situation'.	Items on the Empathic concern and personal distress scales equate the measurement of affective empathy. For example, 'I often feel tender concerned feelings towards for people less fortunate than me'.	Definition of empathy not synonymous with the definition being employed within current research.
Bryant's empathy index (Bryant, 1982)	To investigate affective empathy focusing on, 'the affective arousal component- the experience of perceived sharing of feelings' (Bryant, 1982 p.413).	Not applicable	'I really like to watch people open presents, even when I don't get any myself'	Focuses on affective component only
Hogan Empathy Scale (Hogan, 1969)	Do not distinguish between affective and cognitive empathy	Not specified	Not specified	Does not distinguish between affective and cognitive empathy.
Empathy Quotient (Baron-Cohen, Richler, Bisarya, Gurunathan, & Wheelwright, 2003)	Cognitive and affective empathy. With affective empathy being defined as, 'an individual having an <i>appropriate</i> emotional response to the mental state of another' (Allison et al., 2011 p 829).	'It is hard for me to see why some things upset people so much'	'I really enjoy caring for people'	Definition for measuring affective empathy is not appropriate for the current research. Designed for use with adults.

